

Appendix E

HTRW Assessment Report Fourth Avenue



HTRW Assessment Report

Fourth Avenue

Mouse River Enhanced Flood Protection Project
Minot, North Dakota

Prepared for
Souris River Joint Board

July 2015

HTRW Assessment Report Fourth Avenue

July 2015

Contents

Background.....	1
1.0 Assessment Area Setting	2
2.0 Land-Use History and Current Conditions.....	4
2.1 Assessment Area History	4
2.2 Current Conditions.....	5
3.0 Regulatory History.....	6
4.0 Previous Environmental Investigations	7
5.0 Findings	8
6.0 Conclusions	10

List of Figures

Figure 1	Project Overview
Figure 2	Assessment Area Location Map
Figure 3	Assessment Area Layout Map
Figure 4	Investigation Locations
Figure 5	Historic Layout Map

List of Appendices

Appendix A	HTRW Documentation
Appendix B	Historical Documentation
Appendix C	Regulatory Reports
Appendix D	Site Visit Photographs
Appendix E	Information Resources
Appendix F	Braun Intertec Boring Logs
Appendix G	Limitations and Qualifications
Appendix H	Contingency Plan

Background

Barr Engineering Co. completed a Hazardous, Toxic, and Radioactive Waste Assessment (HTRW Assessment) for the Fourth Avenue segment of the Mouse River Enhanced Flood Protection Project (Project) in Minot, Ward County, North Dakota. The Project consists of multiple flood protection features from Burlington to south of Minot (Figure 1). This HTRW Assessment focuses on the flood control features to be constructed in the Fourth Avenue segment, where construction of a new floodwall, levee, road realignments, and related utility relocations are planned as part of the Project. The Initial Assessment Area was originally established around planned Project features and a buffer of approximately 50 feet to account for temporary construction areas (the Initial Assessment Area Figure 2). In May, 2015, additional areas were added to the Initial Assessment Area, including east of Third Street NE and west of Broadway Street (Assessment Area; Figure 2). The following resources were used to obtain information on the Assessment Area: site reconnaissance, historical maps, reverse city directories, historical aerial photographs, a regulatory database report, and select interviews with Minot staff. The majority of those resources were able to provide full coverage of the Assessment Area as it was expanded beyond the Initial Assessment Area, with the exception of incomplete historical fire insurance maps west of Broadway Street. Barr conducted a second site reconnaissance in May to account for the additional areas; however, we did not contact Minot staff again as their responses were not site-specific.

Barr performed this HTRW Assessment in general conformance with ER 1156-2-132 U.S. Army Corps of Engineers Water Resources Policies and Authorities, Hazardous, Toxic and Radioactive Waste Guidance for Civil Works Projects (Ref. 16). This narrative briefly summarizes the results of the HTRW Assessment. The Assessment Area's setting, land-use history, regulatory history, and features, as well as information related to interviews and information resources, are presented in the HTRW Assessment documentation in Appendix A. Historical documentation is in Appendix B. Regulatory Reports are in Appendix C. Site visit photographs are in Appendix D. Reference numbers cited throughout this report and in Appendix A correlate to the numbers listed with the information resources in Appendix E.

1.0 Assessment Area Setting

The Fourth Avenue segment is north of the Mouse River and extends from west of Broadway Street to east of the Third Street SE (Figure 2). The proposed improvements within the Assessment Area include construction of a floodwall, levees, and road realignments.

There are 107 parcels within the Assessment Area; 34 are owned by Minot, 1 by the ND state highway department and 72 are privately owned. A comparison between aerial photographs and site inspection observations indicate that approximately six buildings have been demolished on parcels owned by Minot. As of May 17, 2015, there are approximately 56 buildings within the Assessment Area; including a vacant church, 41 residences or business, 8 buildings marked “No Trespassing – City of Minot” and 6 buildings associated with Helm’s & Mork Storage (Figure 3).

The Assessment Area is in the floodplains of the Mouse River Basin at a surface elevation of approximately 1,550 feet above mean sea level (Refs. 1, 12). This basin was carved into late Wisconsin age glacial drift during the draining of Glacial Lake Regina, in Saskatchewan, Canada. Floodplain alluvial deposits, generally mapped across the extent of the Souris River Valley Floodplain, consist of fluvial channel and overbank sands, gravels, silts, and clays (Refs. 21, 22). The floodplain alluvial deposits varying in thickness from approximately 50 to 200 feet thick (Ref. 20). At the margins of the floodplain, colluvial fan deposits of sandy and silty clay originate from the mouths of coulees and ravines (Ref. 22). Based on a recent geotechnical investigation, fill is present from 0 to 15 feet below ground surface (bgs) throughout the Assessment Area.

Bedrock underlying the Assessment Area is the Cannonball Formation, consisting of alternating sand, shale, poorly consolidated sandstone and mudstone (Refs. 5, 20). The Cannonball Formation is within the lower part of the Fort Union Group which is regionally present in the vicinity of the Assessment Area (Ref. 5). The depth to bedrock underling the Assessment area is approximately 144 to 206 feet below ground surface, ranging from approximately 1,406 to 1,344 feet above mean sea level (Ref. 19).

In January 2015, a geotechnical investigation was conducted in the Assessment Area (Ref. 12; Figure 4). Fill was observed in all investigation locations, ranging in depth from 0 feet bgs to 15 feet bgs (Ref. 12). Environmental field screening for potential contaminants was not conducted as part of the geotechnical investigation; however, borings ST-4 and ST-7 contained bituminous fragments, test pit TP-1001 contained 8 inches of bituminous pavement between 2.0 and 2.8 feet bgs and pieces of concrete and wood between 2.8 and 7.5 feet bgs, and test pit TP-1006 contained brick fragments, glass, and concrete between 3 and 7 feet bgs (Ref. 12). Groundwater was observed at depths ranging from 12 to 19 feet bgs; however, the boring logs indicate that groundwater levels fluctuate in the area (Ref. 12). Alluvium generally consisting of silt, silty sand, or clay was present directly beneath the fill (Ref. 12). Boring logs are in Appendix F.

Minot provides potable water to residents in the Assessment Area from wells within and east of Minot, screened in the Minot aquifer and Sundre Aquifer (Refs. 10, 17). Prior to connecting to Minot’s water

supply, private wells were used within the Assessment Area (Ref. 10). The City now requires all residents within the city limits to be connected to Minot's water supply system (Ref. 10).

The Assessment Area is within the Hudson Bay Drainage (Ref. 19). The nearest surface water body is the Mouse River, located south of the Fourth Avenue segment. The Mouse River originates in Canada; it flows southeasterly through North Dakota before bending northwards back into Canada (Ref. 6). Drainage ditches and storm water outlets are present throughout the Assessment Area.

The Minot aquifer is comprised of very coarse sand and gravels containing numerous of boulders. The depth varies from approximately 100 to 150 feet below ground surface (bgs) throughout the vicinity (Ref. 20). Historical groundwater flow direction within the Assessment Area is anticipated to be south towards the Mouse River (Refs. 1, 8); however, due to pumping from public water supply wells, groundwater flow reverses direction away from the river and towards the public water supply wells in the area (Ref. 8). The public water supply wells in the Mouse River valley obtain water from the Minot aquifer (Refs. 10, 17) and Sundre Aquifer (Ref 17). Therefore, the groundwater flow direction varies and for the purposes of this HTRW Assessment it is assumed that all sites listed in the regulatory database report that are located between the Mouse River and the public water supply wells are potentially upgradient.

2.0 Land-Use History and Current Conditions

In 1886, the Great Northern Railroad ended its development in the state of North Dakota for the winter, after having difficulty constructing a trestle across Gassman Coulee (Ref. 15). A tent town sprung up overnight and the town was named after Henry Davis Minot, a railroad investor (Ref. 15). The city was incorporated on June 28, 1887 (Ref. 15). The town started out as a western town, and additional development occurred in the 1950s, census data records a population of 22,032 (Ref. 15). In 1969, a severe flood on the Mouse River devastated Minot and the U.S. Army Corps of Engineers straightened the river through the city and built several flood control structures (Ref. 15). The 2010 census data records a population of 40,888 people (Ref. 15). The Assessment Area has a variety of zoning including: R1, single family; R3B, multifamily; C1, limited commercial; C2, general commercial; and M2, light industrial, (Ref. 17).

2.1 Assessment Area History

Fire insurance maps indicate that the Assessment Area was used for residential purposes by at least 1913 (Ref. 2). Other uses indicated in the 1913 map include: the Minot Flour Mill that was at the intersection of Third Street NE and Fourth Avenue (Ref. 2); a Feed and Stable building that was at the intersection of Fourth Avenue and Third Street NE; and a bakery that was at the intersection of Fifth Avenue NE and Third Street NE. A vacant parcel north and east of the Minot Flour Mill was indicated as the former Great Northern Lumber Co. in the 1913 map (Ref. 2). A historical layout map is provided in Figure 5.

Additional development was apparent in the 1918 fire insurance maps (Ref. 2). The Minot Flour Mill was still present and Standard Oil Co. constructed a building northeast of the flour mill which included an oil warehouse, a lubricating tank house, a building for filling wagon tanks, a barrel-filling shed, oil pump house, and gasoline and kerosene tanks within the Assessment Area (Ref. 2). A dry cleaner was present north of the intersection of Third Street NE and Fifth Avenue NE (Ref. 2). A garage was also present at the intersection of Fourth Avenue and Second Street NW; however, no additional information is available on this garage (Ref. 2). A pump house was also present at the intersection of Fifth Avenue NW and Walders Street NW (Ref. 2). The Feed and Stable building was converted to Cox-Emerson Lumber Company (Ref. 2). North of the Assessment Area, a creamery was present (Ref. 2), and northwest of the Assessment area a Water Treatment Plant was present (Ref. 2).

By 1926, more residential development is apparent north of Fourth Avenue (Ref. 2). The Minot Flour Mill, Standard Oil Co., dry cleaner, and the garage were still present (Ref. 2). The Cox-Emerson Lumber Company had been converted to the Bond Lumber Company and included a filling station (Ref. 2). The Minot Bakery had been converted to Purity Ice Cream and Dairy Co. (Ref. 2). The Minot Water Treatment Plant was still present, and the creamery had been converted to a filling station.

Based on a review of the historical aerial photos, the Assessment Area was largely developed by 1938 (Ref. 3). Between 1969 and 1979, the Mouse River was realigned west of the Assessment Area and the Broadway Street Bridge, and a number of buildings were demolished in the process (Ref. 3). Demolition material was removed from the Assessment Area (Ref. 10). Based on the aerial photos, portions of the Assessment Area have been developed for industrial purposes since at least 1938 (Ref. 3).

Reverse city directories indicate that a heating and air conditioning shop was located at 400 Fifth Avenue NE in 2004 (Ref. 7). From 1978 to 1988, this same parcel was occupied by Werner Oil, and from 1963 to 1973, this parcel was occupied by Standard Oil Division of American Oil Company, which was also identified in the 1918 fire insurance map (wholesale) (Ref. 7).

2.2 Current Conditions

Current land use in the Assessment Area is a mix of vacant land, residential, commercial, and industrial. There were approximately 56 buildings present as of May 17, 2015, with 8 marked as “No Trespassing – City of Minot”. Industrial and commercial uses include Home Sweet Home gift shop, Giscon concrete pumping service, Souris Valley Feed and Seed grain elevator, Souris River Design, Taxi 9000, and Helm’s & Mork’s Storage which is used as a furniture store, a small used car sale lot, and portable heater storage; all of these uses are contained within a large fenced-in area. There is also a large vacant church and the bridges for Broadway Street and Third Street SE.

Rivers and railroads are south of the area. The surrounding area to the north consists of residential property, churches, McKinley Elementary School, and several businesses, including Sammy’s Pizza, Lowe’s Printing, Watne Real Estate office, All Washed Up Laundromat, B&D Market, E-cig electric cigarette shop, Body Brite massage parlor, Philotechnics Ltd building , and leased commercial garages. A small city park is also present.

Site inspections were completed for the Initial Assessment Area on March 17, 2015, and the Assessment Area on May 17, 2015, from public rights-of-way (Figure 3). No buildings were entered and inspected. Notable items observed within the Initial Assessment Area during the site inspection visits were a vent pipe east of the Broadway Street bridge and one pole-mounted transformer, both in good condition. No concrete washout, barrels, or stained ground were observed in the vicinity of Giscon concrete pumping service.

Notable items observed in the site visit for the expanded Assessment Area include seven pole-mounted transformers and one pad-mounted electrical box, all in good condition. A private car repair shop with car repair materials and presumably welding tanks were observed at a residence. No stained ground or stressed vegetation were observed. Approximately 20 trailer-mounted portable heaters and some heavy equipment were observed in the fenced-in area at Helm’s & Mork’s Storage, along with a small used car sale lot. No barrels or stained ground were observed.

Notable items in the surrounding area to the north were a generator in Lowe’s Printing yard, two pad-mounted electrical boxes in good condition in the city park, three pole-mounted transformers in good condition, and a 55-gallon drum, large plastic liquids container, lawn mowing equipment, and heavy equipment near a shop behind Philotechnics Ltd. No stained ground was observed.

The following were not observed within the Assessment Area during the site inspection visits: septic systems; visible evidence of filling, excavation, or burned areas; pits, ponds, or lagoons; stained pavement; pipelines; vegetative stress; rail lines; and non-stormwater discharges into drains, ditches, streams or adjacent properties.

3.0 Regulatory History

A search of regulatory records for the Initial Assessment Area was obtained from Historical Information Gatherers, Inc. (HIG) on March 10, 2015, and for the rest of the Assessment Area on May 7, 2015. The HIG regulatory database reports (HIG Report) are in Appendix C. No sites with a regulatory listing were within the Initial Assessment Area identified in the HIG Report (Ref. 9). Three listed sites were identified in the expanded Assessment Area, including the Werner Oil Company, North Dakota Concrete Products, and Porter Brothers Salvage Yard. Werner Oil Company and Porter Brothers have registered storage tanks, and North Dakota Concrete Products as listed as a leaking storage tank site, with site cleanup complete in 1989.

Several regulated sites were identified in the HIG report as potentially adjacent to or upgradient of the Assessment Area (Ref. 9). More than 75 unmappable sites (i.e., sites that could not be definitively located by HIG) were listed in the HIG Report. None of the unmappable sites with documented releases were determined to be adjacent to or up-gradient of the Assessment Area (Ref. 9). Additional details regarding the regulatory history of surrounding properties are included in Appendix A and Appendix C.

4.0 Previous Environmental Investigations

Minot conducted environmental investigations from 2013 to 2015 at nearby sites under an Environmental Protection Agency (EPA) Brownfield Program Area Wide Assessment Grant. Within the Area Wide Planning Project Boundary, two sites, the Porter Brother Salvage Yard and Standard Oil, are identified as catalyst sites, and they are located within the Assessment Area and west of the Assessment Area (Ref. 14). Catalyst sites are brownfield sites that were selected as key redevelopment sites in the grant application. In spring 2015, Minot received approval from the EPA to allow for further investigations at the Porter Brothers Salvage Yard and Standard Oil. A Phase I Environmental Site Assessment is planned in 2015 and a Limited Phase II Investigation will be completed as necessary.

5.0 Findings

The following is a list of notable observations and findings that may present an environmental risk as part of the Project implementation:

- A PVC vent pipe was observed on the northern side of the river near the Broadway Street bridge. No stressed vegetation was observed.
- Several pole-mounted and pad-mounted transformers were observed throughout the Assessment Area. No leaks, spills, rust spots, or dents were observed.
- Home Sweet Home Gift Shop (103 Fourth Avenue) is on the south side of Fourth Avenue. No barrels or stressed vegetation was observed.
- A vacant church is on Fourth Avenue. No signs of stressed vegetation or evidence of trespassers was observed.
- Historically, a dry cleaner and a garage were located upgradient of the Assessment Area.
- Portions of the Assessment Area have been used for commercial and industrial purposes since at least 1918. Industrial uses have included a lumber yard, salvage yard, flour mill, and petroleum product storage and distribution facility. Some of the commercial properties likely represent a lower risk for encountering potentially contaminated sites including a bakery, former church, gift shop, furniture store, and bakery. Additional details for select commercial properties that have greater potential for encountering contaminated sites are listed below:
 - A private car repair shop is north-adjacent to the Assessment Area. A fence was present, so current chemical use was not readily ascertainable. Additionally, vegetative stress or leaking containers were not readily observable.
 - A garage with vehicle repair materials and fluids (including one rusty 55-gallon drum) stored near the alley was noted at one residence immediately north of the Assessment Area at 414 First Street NE. No staining or distressed vegetation was observed from the public right-of-way.
 - A concrete pumping service (Giscon) is on Third Street NW. Heavy equipment was observed, no staining, concrete washouts, or stressed vegetation were observed.
 - Approximately 20 trailer-mounted portable heaters, some heavy equipment, and a small used car lot, were observed in the fenced in area at Helm's & Mork's Storage. No barrels, leaks, or stained ground were observed.
 - No car repairs were apparent at Taxi 9000, as no barrels, oil pans, or car repair parts were observed in the parking lot.

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- An existing railroad is present east of the Third Street NE Bridge, and south of Fourth Avenue. Railroad ties are typically treated with creosote which can leach into soil and groundwater. Additionally, rail spurs are typically sprayed with herbicides to prevent significant vegetation growth.
 - In nearby areas, potentially contaminated sites include:
 - North of the Assessment Area, a 55-gallon metal drum and large plastic container were observed outside of a shop behind Philotechnics Ltd. Lawn mowing equipment and heavy equipment were also observed in the parking lot. No evidence of staining or leaking was observed. The containers appeared to be in good condition.
 - A commercial building resembling leased garages was observed north adjacent to the Assessment Area. No barrels or evidence of stained concrete were observed from the exterior.
 - About 200 feet north of the Assessment Area, a generator located to the west of Lowe's Printing was observed. No leaks or staining were observed in the vicinity.
 - The Assessment Area is north adjacent to existing rail lines that have been used since at least 1913.
 - Based on the geotechnical investigation, fill is present along the proposed location for the flood wall and levee near Fourth Avenue and debris was observed in some of the borings.

6.0 Conclusions

Barr performed this HTRW Assessment in conformance with the HTRW guidelines. Company qualifications, special terms, conditions, limitations, and exceptions that apply to the Assessment are described in Appendix G.

The following environmental risks were identified as having the potential to impact the Project:

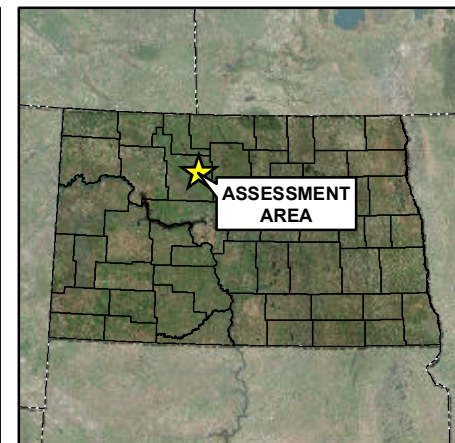
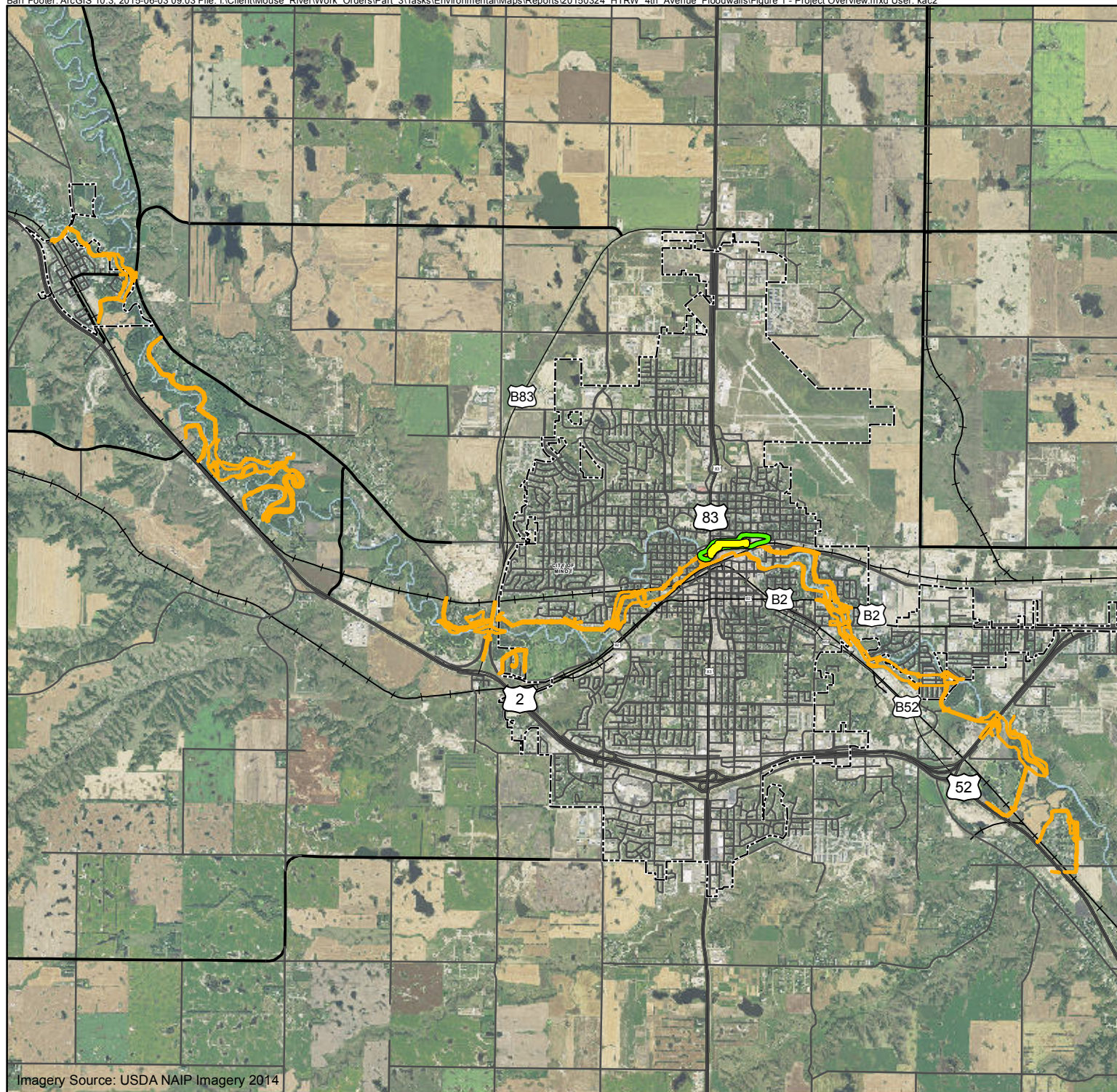
- Due to the age of the buildings present in the Assessment Area, it is possible that hazardous building materials (such as asbestos-containing material (ACM) and lead-based paint) could have been used during construction. Also, older buildings could have had heating oil storage, wells, septic systems, or other concerns. Although the HTRW did not involve building walkthroughs or interviews with owners, an inventory of such items should be conducted in the future at buildings to be demolished and any identified environmental concerns should be addressed/abated/sealed/etc. prior to demolition in accordance with applicable local, state, and federal requirements.
- Debris is present in some areas in the shallow fill soil, including glass, brick, and asphalt fragments. If the Project involves excavation into these areas, then the excavated materials may require further evaluation to determine whether the extent of the debris represents a concern for reuse of the soil within the Project area, and/or for potential export to off-site locations. If areas of the excavation encounter significant concentration of debris, then it may be necessary to segregate the excavated debris materials from these areas for transport to a landfill. Excavation of debris areas should be monitored by an environmental professional to verify that the debris are consistent with the type of materials observed in the geotechnical investigations (glass, brick, asphalt).
- Some of the parcels east of Third Street NE have been used for industrial purposes since at least 1918, including a lumber yard, oil company, and flour mill. In addition, this area was listed in the regulatory report due to registered storage tanks and leaking storage tanks associated with Werner Oil Company, North Dakota Concrete Products, and Porter Brothers Salvage Yard, and a leaking storage tank associated with North Dakota Concrete Products.






The long-term industrial nature of the properties east of Third Street NE should be further assessed and investigated prior to finalizing the design for the Project or initiating construction. This will include site walkthroughs, interviews with the property owners, and subsurface environmental investigations. The assessment should target specific locations of historical environmental concerns (e.g., former tank locations) as well as areas planned for excavation as part of the Project.

If further assessment identifies contamination at these sites, then it is also recommended that a corrective action plan for managing contaminated soils during the Project be developed prior to finalizing the design for the Project or initiating construction.

In addition to the above risks, it is recommended that work crews implementing the Project always be alert to the possibility that unexpected hazardous substances or petroleum products may be encountered which were not identified by the HTRW Assessment, especially given the urban setting and long land-use history in the Assessment Area. Appendix H provides a Contingency Plan that can be used to guide actions in the event that unanticipated environmental conditions are encountered during the Project.

Figures



-  Initial Assessment Area
-  Assessment Area
-  Other Project Segments
-  Mouse River
-  Municipalities

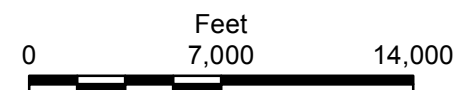
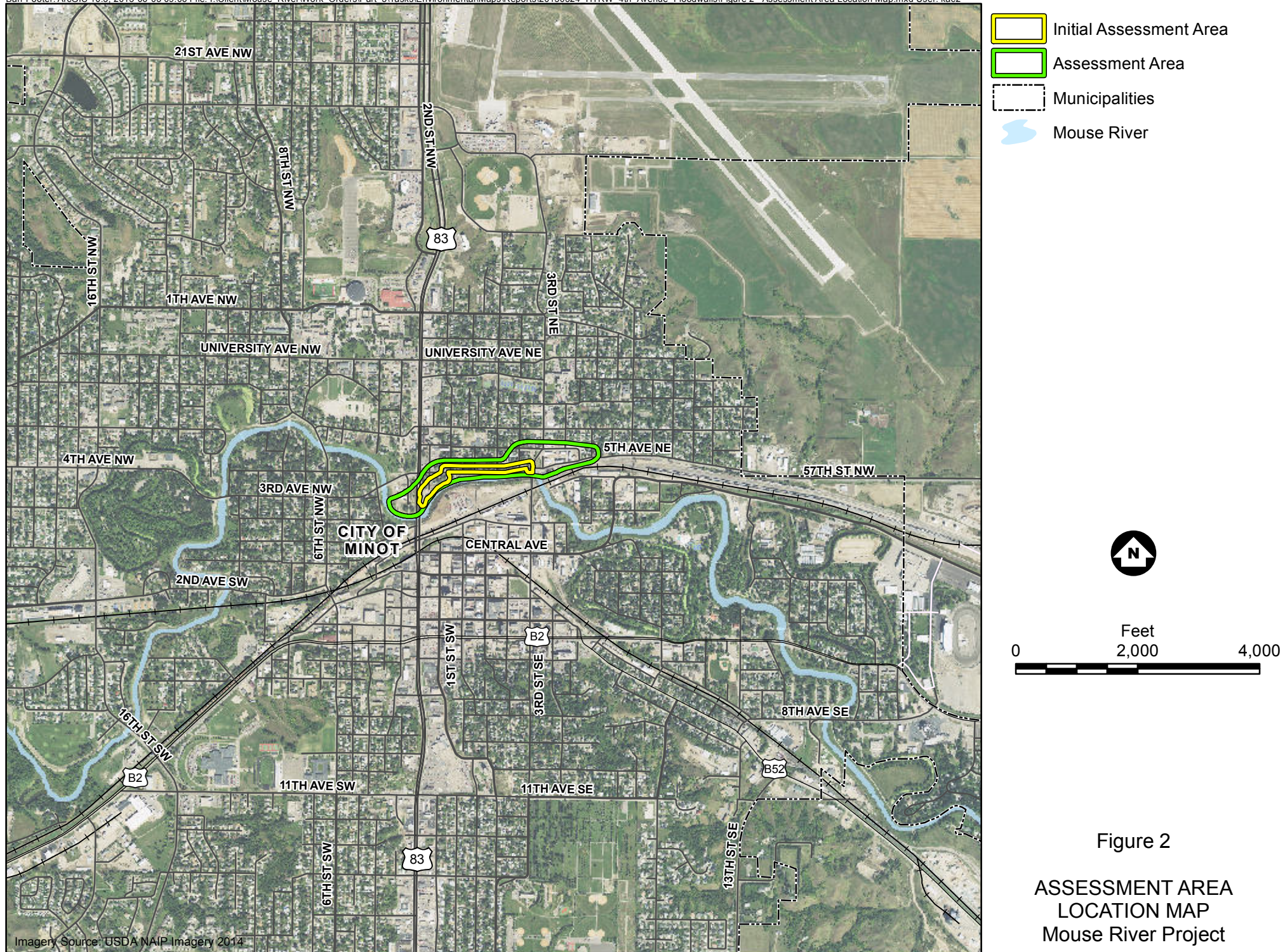


Figure 1

PROJECT OVERVIEW Mouse River Project



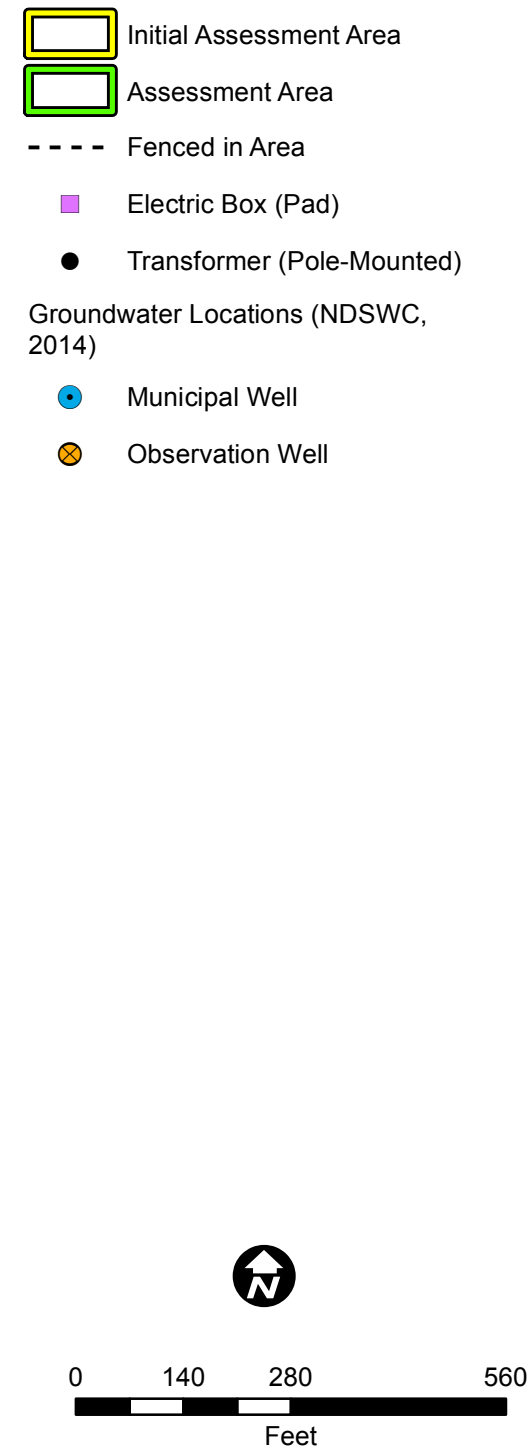
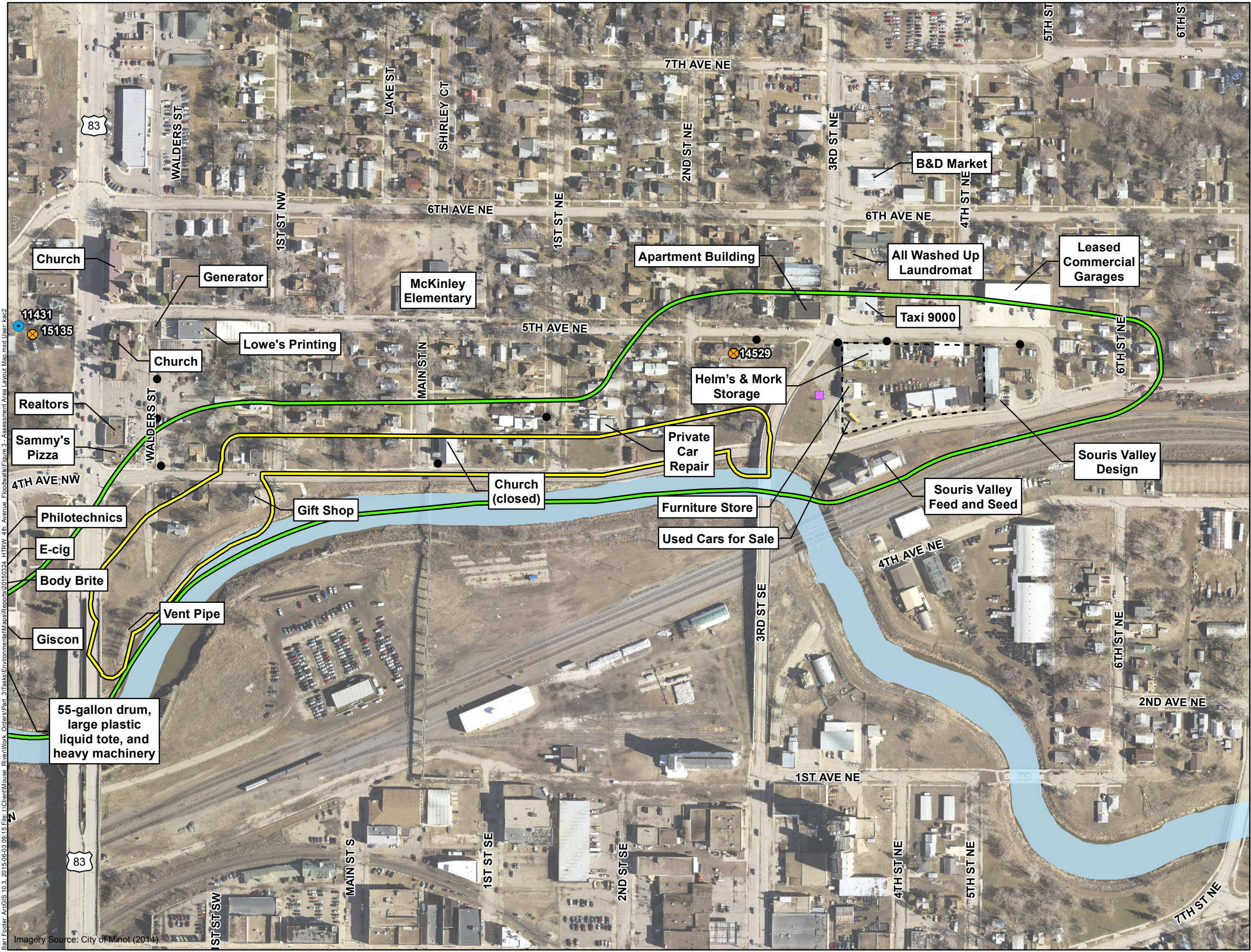


Figure 3

ASSESSMENT AREA
LAYOUT MAP
Mouse River Project



- Initial Assessment Area
- Assessment Area
- Geotechnical Boring Locations (Braun)
 - SPT Boring
 - SPT Boring (with Debris)
- Test Pit Location (Houston)
 - Test Pit Location
 - Test Pit Location (with Debris)

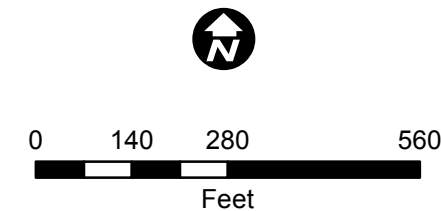

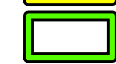


Figure 4
INVESTIGATION
LOCATIONS
Mouse River Project

Bar Footer: ArcGIS 10.3 2015-06-23 08:57 File: I:\Client\Mouse River\Work Orders\Par 3\Tasks\Environmental\Maps\Reports\20150324_HTRW_4th Avenue Floodwalls\Figure 5 - Investigation Locations.mxd User: mlw3

Imagery Source: City of Minot (2014)



-  Initial Assessment Area
-  Assessment Area

* All locations are approximate

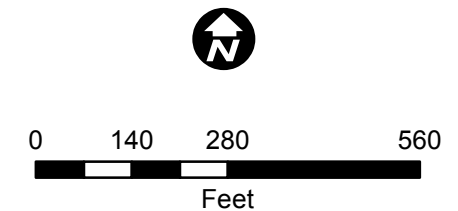


Figure 5
HISTORIC
LAYOUT MAP
Mouse River Project

Appendices

Appendix A

HTRW Documentation

Appendix A
HTRW Assessment Documentation
Fourth Avenue
Mouse River Enhanced Flood Protection Project
Minot, North Dakota

Area Information

Township/range/section:	T155N, R83W, Sections 13, 23, 24
Area Use:	The Assessment Area is currently used for residences, industrial purposes, commercial buildings, and a city park. The primary land use is permanent residences and commercial properties. Several homes were marked as "no trespassing by the City of Minot," and a large building that may have been a church was in the process of being vacated.
Approximate Levee Length:	Levee centerline 485 feet Floodwall centerline 2,380 feet
Zoning:	The Assessment Area is zoned R1, single family, R3B, multifamily C1, limited commercial, and C2, general commercial, and M2, light industrial (Ref. 17)

The properties included in the HTRW Assessment are shown on Figure 3. The Initial Assessment Area was originally established around planned Project features and a buffer of approximately 50 feet to account for temporary construction areas. In May, 2015, additional areas were added to the Initial Assessment Area, including east of Third Street NE and west of Broadway Street. These are collectively referred to as the "Assessment Area" throughout this appendix and report.

Utility Service

Municipal water supply:	City water comes from wells located in Minot that are screened in the Minot aquifer. Additional water comes from wells located 6 miles southeast of Minot that are screened in the Sindre aquifer (Ref. 10).
Property potable/process water supply:	Residences within the Assessment Area receive their water from the Minot municipal water supply (Ref. 10). No wells are located in the Assessment Area (Ref. 13), nearby wells are shown on Figure 4.
Historical water supplies:	Prior to connecting to Minot's water supply, residences within the Assessment Area used private wells (Ref. 10). The City now requires all residents within the city limits to be connected to Minot's water supply system (Ref. 10).
Type of sanitary service:	Sanitary service is provided by Minot; however, private septic systems may be hooked up to Minot's system (Ref. 10). No septic systems were encountered during demolition of residences within the Assessment Area (Ref. 10).
Onsite septic system or drainfields:	None reported (Ref. 10) or observed.

Regulatory Data

Two regulatory database reports were obtained by Historical Information Gathers (HIG Report).

The HIG Report did not identify any sites with a regulatory listing within the Initial Assessment Area (Ref. 9). Three sites, the Werner Oil Company, North Dakota Concrete Products, and Porter Brothers Salvage Yard were identified in the regulatory report. Werner Oil Company and Porter Brothers have registered

storage tanks, and North Dakota Concrete Products is listed as having a leaking storage tank, with site cleanup complete in 1989.

All of the other listings, located within the Assessment Area or potentially upgradient of the Assessment Area were listed in the Facility Registry System (FRSND).

Assessment Area Land-Use History

The Assessment Area has mainly been used for residential housing since at least 1913 (Refs. 2, 3). The nonresidential uses identified in the Assessment Area include a gift shop and a vacant church. Historically, nonresidential uses included a lumber company, flour mill, and an oil company as shown on Figure 4 (Ref. 3). No demolition debris was evident in the Assessment Area during the site inspection visit performed as part of this HTRW Assessment (Ref. 11). The area has not changed significantly since 1913, with the exception of additional residential housing development over time, some of which has been demolished since the flood in 2011 (Ref. 3).

A portion of the Assessment Area has been used for industrial purposes since at least 1938. The nonresidential portion of the Assessment Area is currently used by a concrete pumping service (Giscon), Souris Valley Feed and Seed, Souris River Design, Helm's & Mork's Storage, a furniture store, and Taxi 9000.

The surrounding area includes residences, an electric cigarette shop (E-cig), a massage parlor (Body Brite), a hazardous materials and waste contractor business (Philotechnics Ltd), Sammy's Pizza, a realty company, churches, Lowe's Printing, McKinley Elementary, All Washed Up Laundromat, B&D Market, and leased commercial garages.

Nearby Area Land Use

Direction	Historical	Current
North	Undeveloped, residential, McKinley Public School, dry cleaner (Refs. 1, 2, 3)	Residential, McKinley Elementary School, churches, commercial
South	Mouse River (Refs. 1, 2, 3)	Mouse River
East	Residential (Refs. 1, 2, 3, 9)	Residential
West	Minot Water Works Station, Ice Cream Company, church, Mouse River (Ref. 3)	Commercial and Mouse River

Assessment Area (Current and Historical)

Approximate Number of Structures	Types of Area Structures	Issues Associated with Levee Construction	Notes
Residences and associated garages/sheds are apparent in the current aerial photograph and were observed onsite during the site inspection visit (Ref. 11). As of May 17, 2015 there are approximately 56 residential and commercial buildings present within the Assessment Area.	Residential and commercial	Any septic tanks, fuel tanks, transformers, hazardous building materials, wells, or remaining debris present at lots that are currently occupied and slated for demolition as part of the levee construction will need to be removed prior to floodwall and levee construction.	Some residential properties appear to have been recently demolished (Ref. 3)

Exterior Observations – Initial Assessment Area

Site inspection visits were performed within the Initial Assessment Area on March 17, 2015, and May 17, 2015; associated observations and methods are described in the following table. Photographs taken during the site inspection visits are in Appendix D. Building interiors were not inspected.

Observation Method	The inspector walked transects along the Mouse River from the Broadway Street bridge to approximately the Home Sweet Home gift shop parking lot. The inspector also drove along all public streets and alleys intersecting the Assessment Area.
Access to the Assessment Area	Access was only available from public rights-of-way.
Periphery of the Assessment Area	The Assessment Area is located north-adjacent to the Mouse River between Broadway Street to the west and 3rd Street SNE to the east. Surrounding parcels are owned by public and private entities.
Ground surface cover:	Mixture of parking lots, residential lots, and paved or gravel driving/parking surfaces. Vegetation immediately adjacent to river is not mowed.
Filling, excavation, vegetative stress, burned areas:	None observed.
Pits, ponds, and lagoons:	None observed.
Stained soil or pavement:	None observed.
Wastewater, other liquid discharge into a drain, ditch, stream or adjacent property:	None observed.
Wells:	None observed.
Pipelines:	A 4-inch diameter PVC vent pipe in good condition was observed north of the Mouse River near the Broadway Street bridge.
Rail lines:	Burlington Northern Santa Fe Railroad is located south of the Mouse River and Assessment Area. This railroad crosses the river near the east end of the Assessment Area.
Transformers:	One pole-mounted transformer was observed in the Assessment Area. No spills, leaks, dents, or staining were observed.
Other:	None observed.

Exterior Observations –Assessment Area

A site inspection visit was performed within the Assessment Area on May 17, 2015; associated observations and methods are described in the following table. Photographs taken during the site inspection visit are in Appendix D. Building interiors were not inspected.

Observation Method	The inspector drove all public streets and alleys intersecting the Assessment Area.
Access to the Assessment Area	Access was only available from public rights-of-way.
Periphery of the Assessment Area	The Assessment Area is located north-adjacent to the Mouse River and Burlington Northern Santa Fe Railroad between 3 rd Avenue NE to the west and 6 th Street NE to the east. Surrounding parcels are owned by public and private entities.
Ground surface cover:	Mixture of parking lots, residential lots, and paved or gravel driving/parking surfaces. Vegetation immediately adjacent to river is not mowed.
Filling, excavation, vegetative stress, burned areas:	None observed.
Pits, ponds, and lagoons:	None observed.
Stained soil or pavement:	None observed.
Wastewater, other liquid discharge into a drain, ditch, stream or adjacent property:	None observed.
Wells:	None observed.
Pipelines:	None observed.
Rail lines:	Burlington Northern Santa Fe Railroad was observed immediately south of the Mouse River and Assessment Area.
Transformers:	Seven pole-mounted transformers and one electrical box were observed in the Assessment Area. Two additional electrical boxes and two pole-mounted transformer were observed adjacent to the Assessment Area. No spills, leaks, dents, or staining were observed.
Other:	<p>Car repair parts, including liquids and welding tanks, were observed in the alley of a derby car enthusiast's garage area (414 1st Street NE). The garage door was closed, so additional observations were not possible. No vegetative stress or staining of paved areas was observed.</p> <p>Approximately 20 portable heaters (trailer units) and vehicles for sale were observed in the fenced in area near Helm's & Mork's Storage building. No vegetative stress or staining of paved areas was observed.</p>

USTs/ASTs/Outdoor Chemical Storage Areas

Type (AST, UST, Drums)	Location, Size, Age, Condition, Registration	Containment Devices/ Structures	Runoff Management/ Sumps/Drains	Materials Currently Stored
AST	None observed.			
UST	None observed.			
Drums	<p>Within the Initial Assessment Area, one rusty 55-gallon drum was observed at a derby car enthusiast's residential property. No obvious staining or distressed vegetation was observed from the right-of-way. (Ref. 11).</p> <p>North of the Assessment Area, one red metal 55-gallon drum, and one large plastic bin holding liquids were observed along with some lawn mowing equipment and heavy machinery at a shop behind Philotechnics Ltd. No staining of the nearby soil was observed. The containers were in good condition.</p>	Unknown	Unknown	Unknown
Barrels	None observed.			
Cylinders	Two cylinders, one missing a cap, were observed at a derby car enthusiast's residential property. (Ref. 11)	Unknown	Unknown	Unknown; presumably welding gases.

Appendix B

Historical Documentation



4th Ave Floodwall
, ND



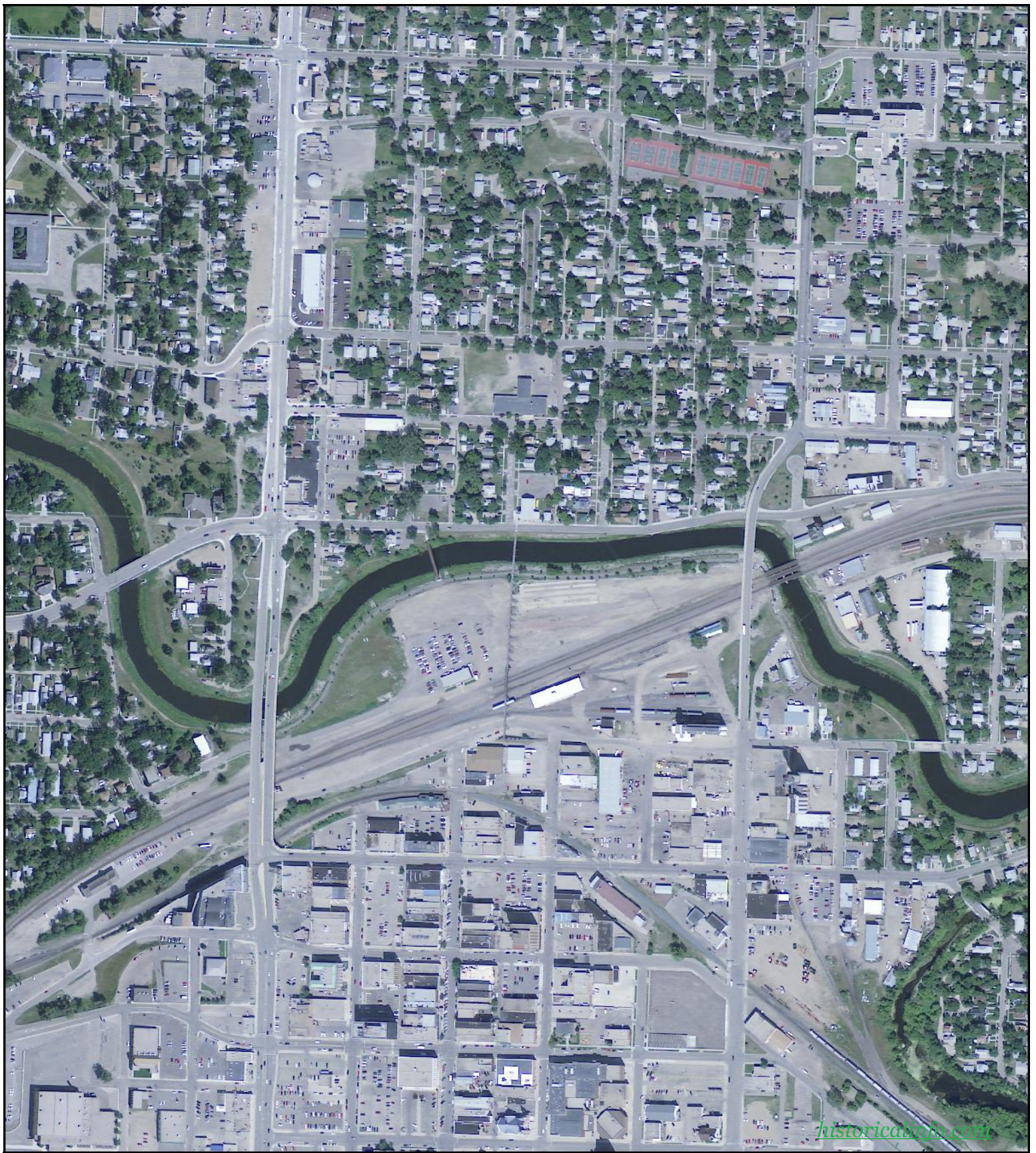
2014

HIG Project # 1513281

Client Project #

Approximate Scale 1:6000 (1"=500')





4th Ave Floodwall
, ND



2009

HIG Project # 1513281

Client Project #

Approximate Scale 1:6000 (1"=500')





4th Ave Floodwall
, ND



2003

HIG Project # 1513281

Client Project #

Approximate Scale 1:6000 (1"=500')





4th Ave Floodwall
, ND



1995

HIG Project # 1513281

Client Project #

Approximate Scale 1:6000 (1"=500')





historicalinfo.com

4th Ave Floodwall
, ND



1991

HIG Project # 1513281

Client Project #

Approximate Scale 1:9600 (1"=800')





historicalinfo.com

4th Ave Floodwall
, ND



1979

HIG Project # 1513281

Client Project #

Approximate Scale 1:6000 (1"=500')





historicalinfo.com

4th Ave Floodwall
, ND



1969

HIG Project # 1513281

Client Project #

Approximate Scale 1:6000 (1"=500')





4th Ave Floodwall
, ND



1961

HIG Project # 1513281

Client Project #

Approximate Scale 1:6000 (1"=500')





4th Ave Floodwall
, ND



1953

HIG Project # 1513281

Client Project #

Approximate Scale 1:6000 (1"=500')





4th Ave Floodwall
, ND



1946

HIG Project # 1513281

Client Project #

Approximate Scale 1:6000 (1"=500')





historicalinfo.com

4th Ave Floodwall
, ND



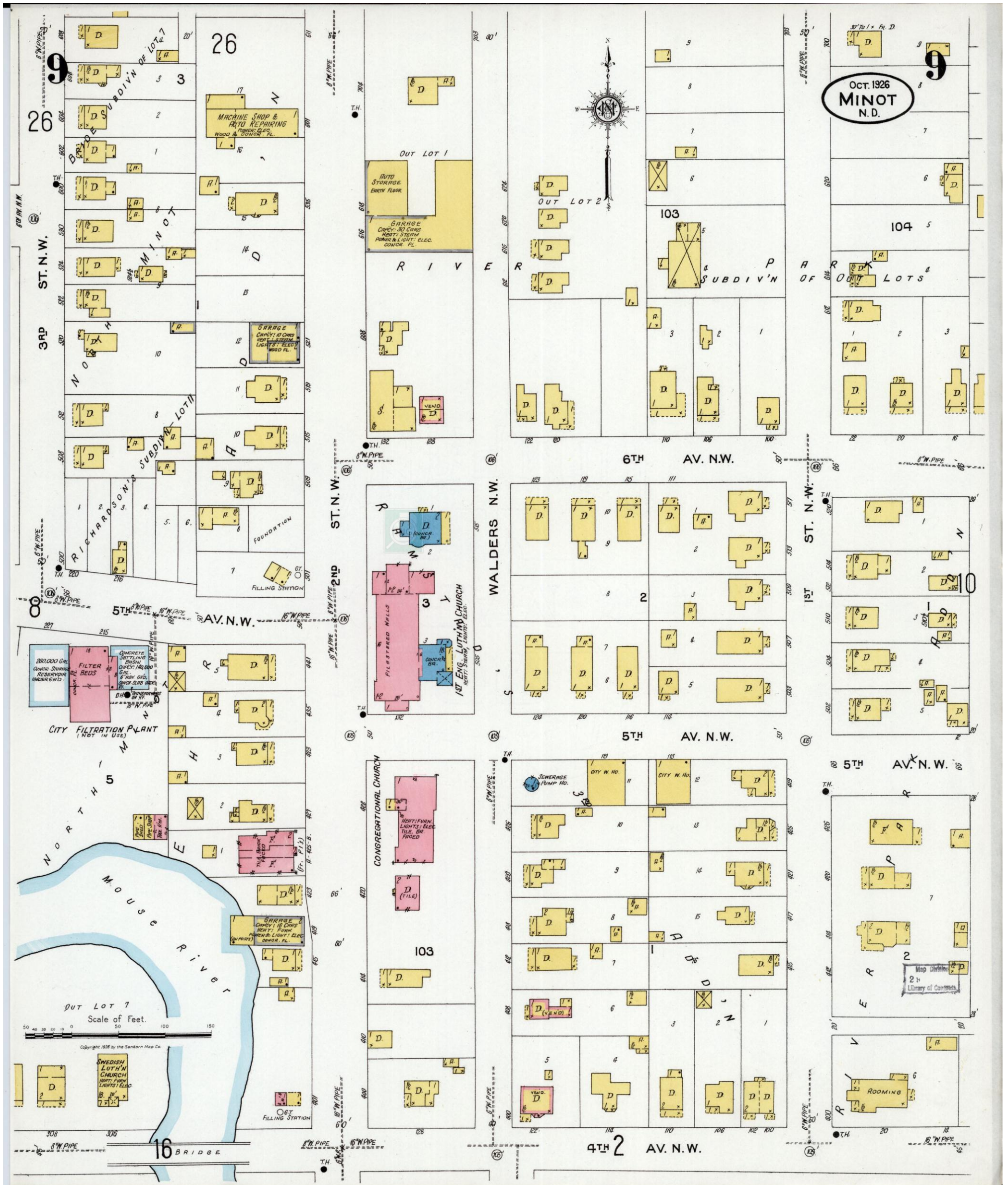
1938

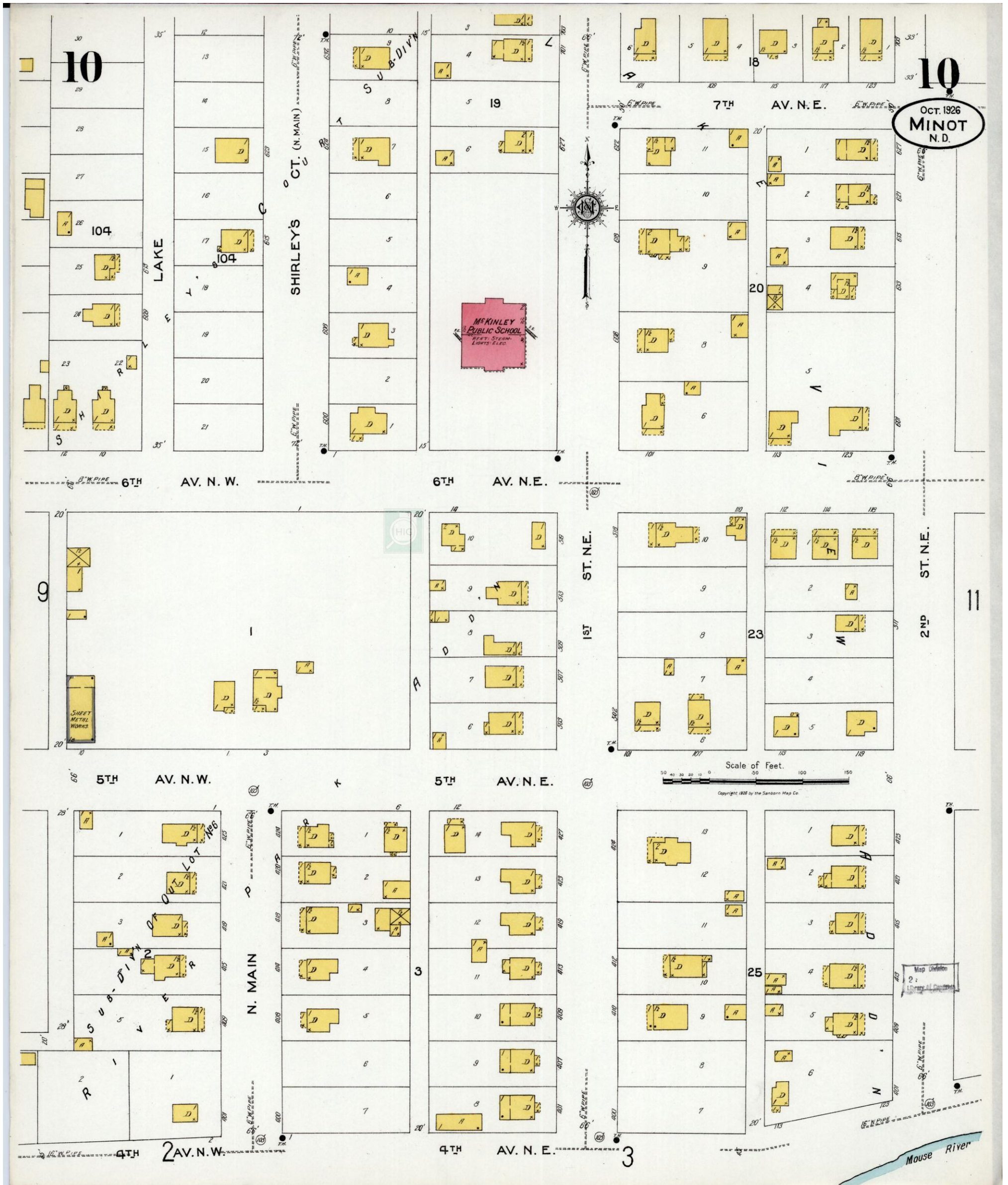
HIG Project # 1513281

Client Project #

Approximate Scale 1:6000 (1"=500')







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Map Type: Fire Insurance
Publisher: Sanborn Map Co.

1926

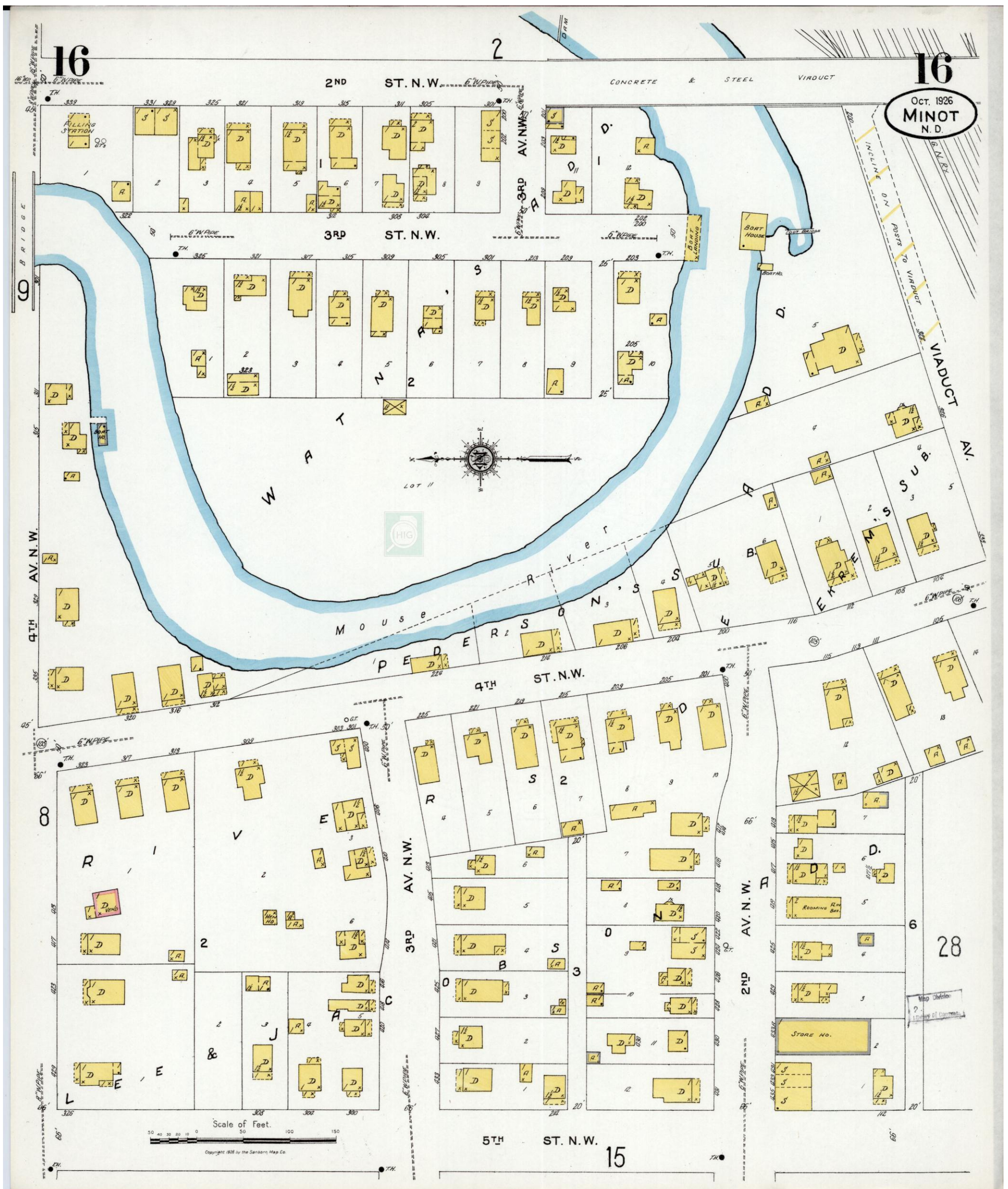
Minot, ND

Map Date: October 1926
Revised Date:
Republished:
Sheet Number: 10

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Map Type: Fire Insurance
Publisher: Sanborn Map Co.

Map Date: October 1926
Revised Date:
Republished:
Sheet Number: 16

1926

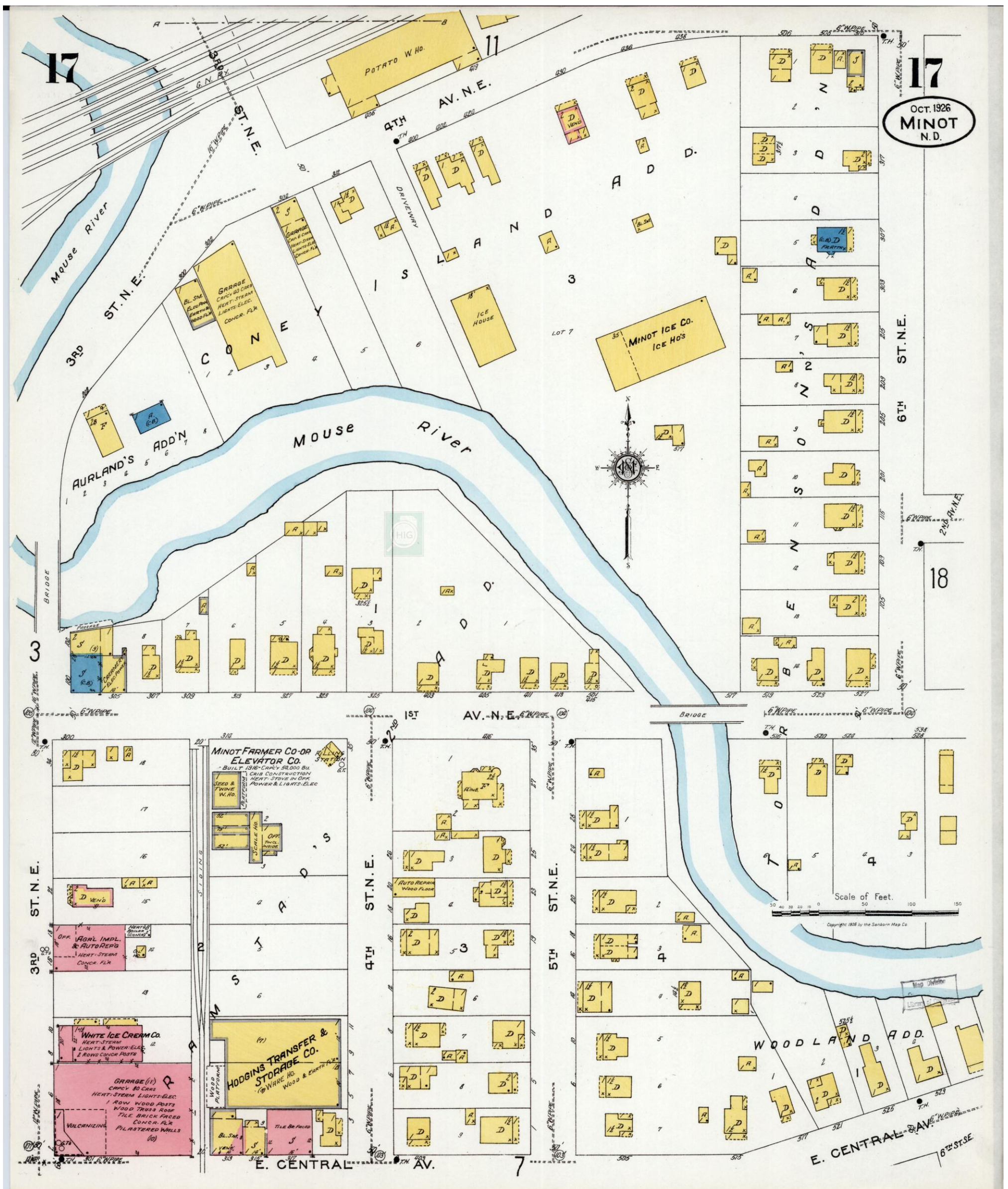
Minot, ND

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Map Type: Fire Insurance
Publisher: Sanborn Map Co.

1926

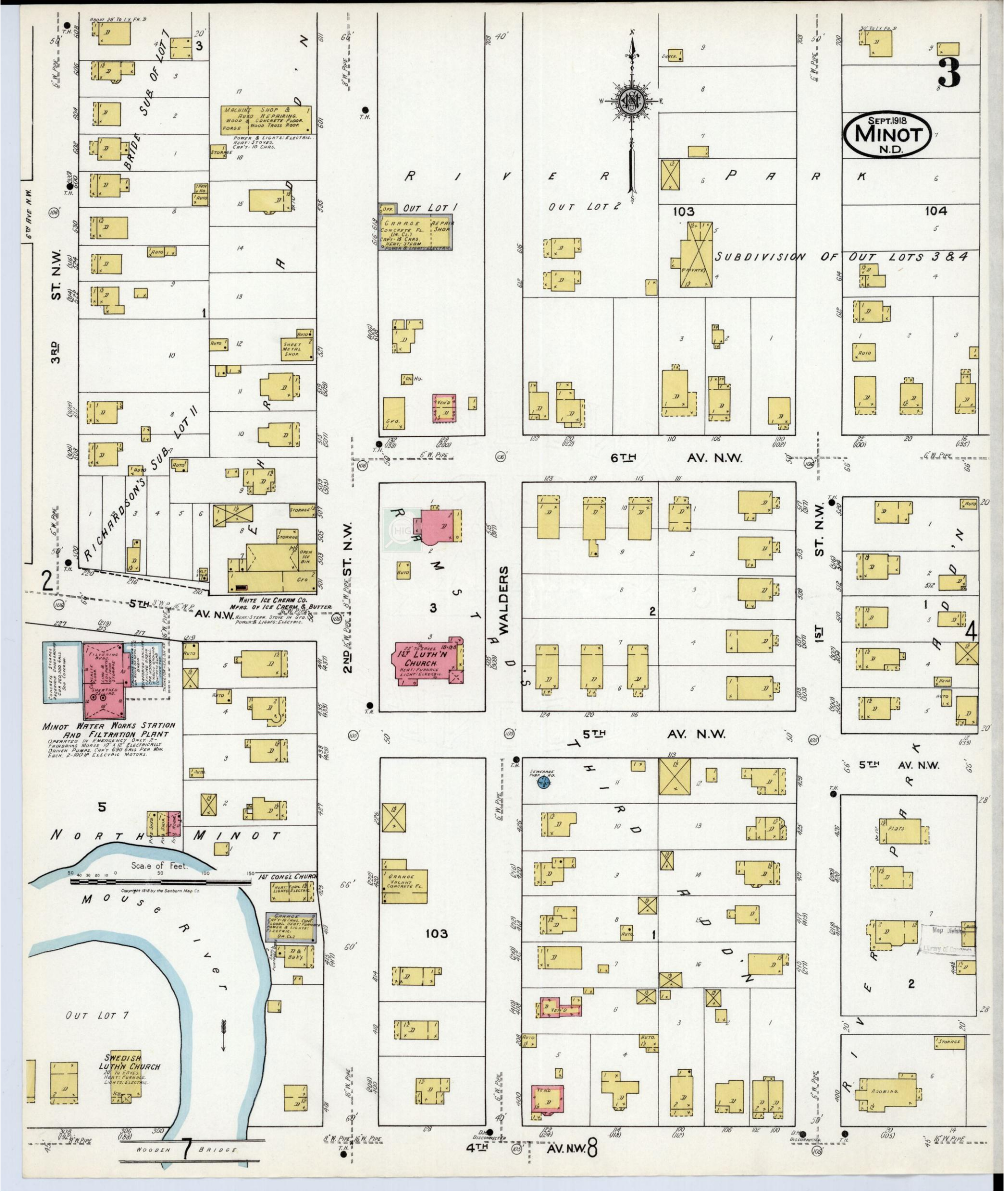
Minot, ND

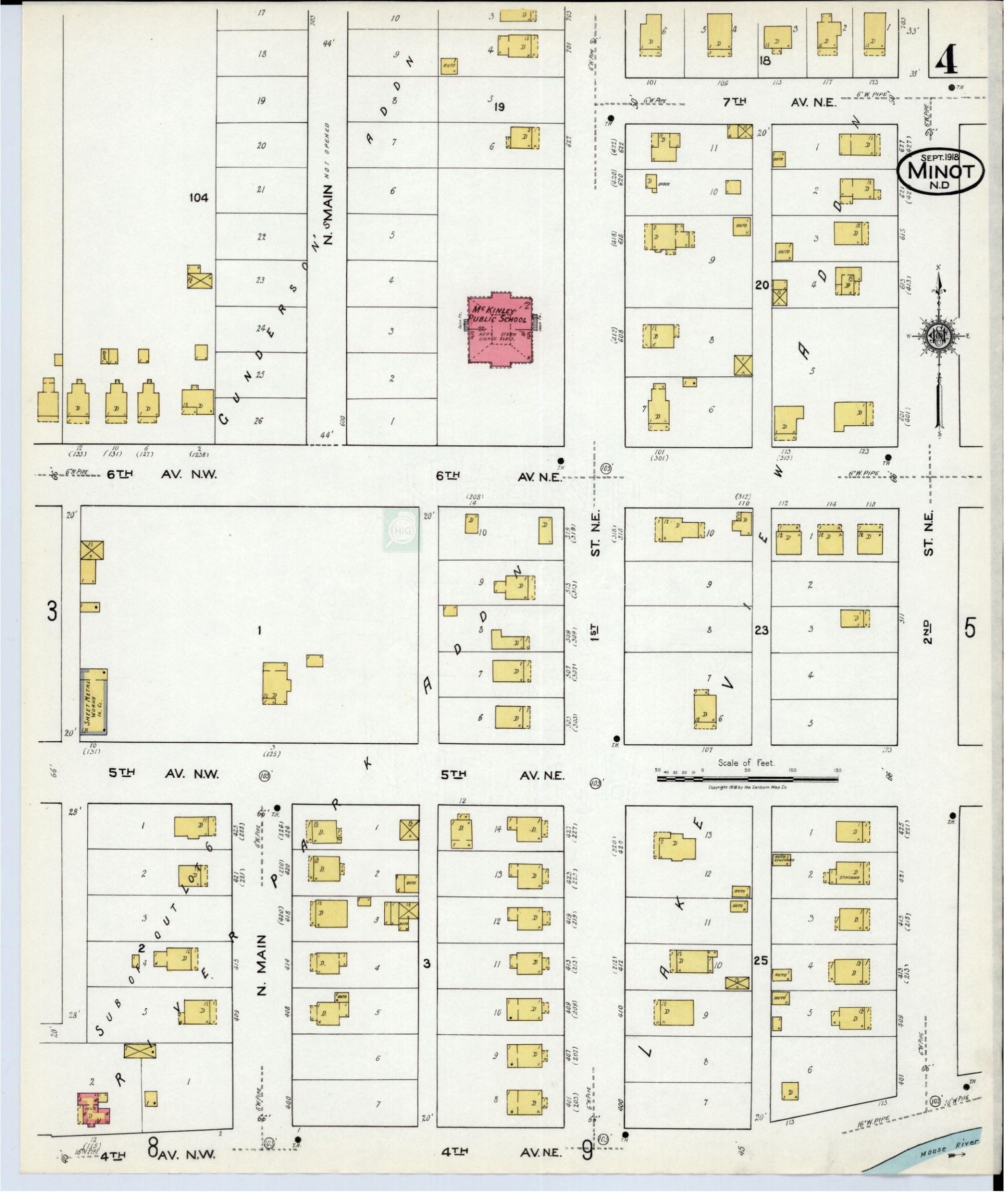
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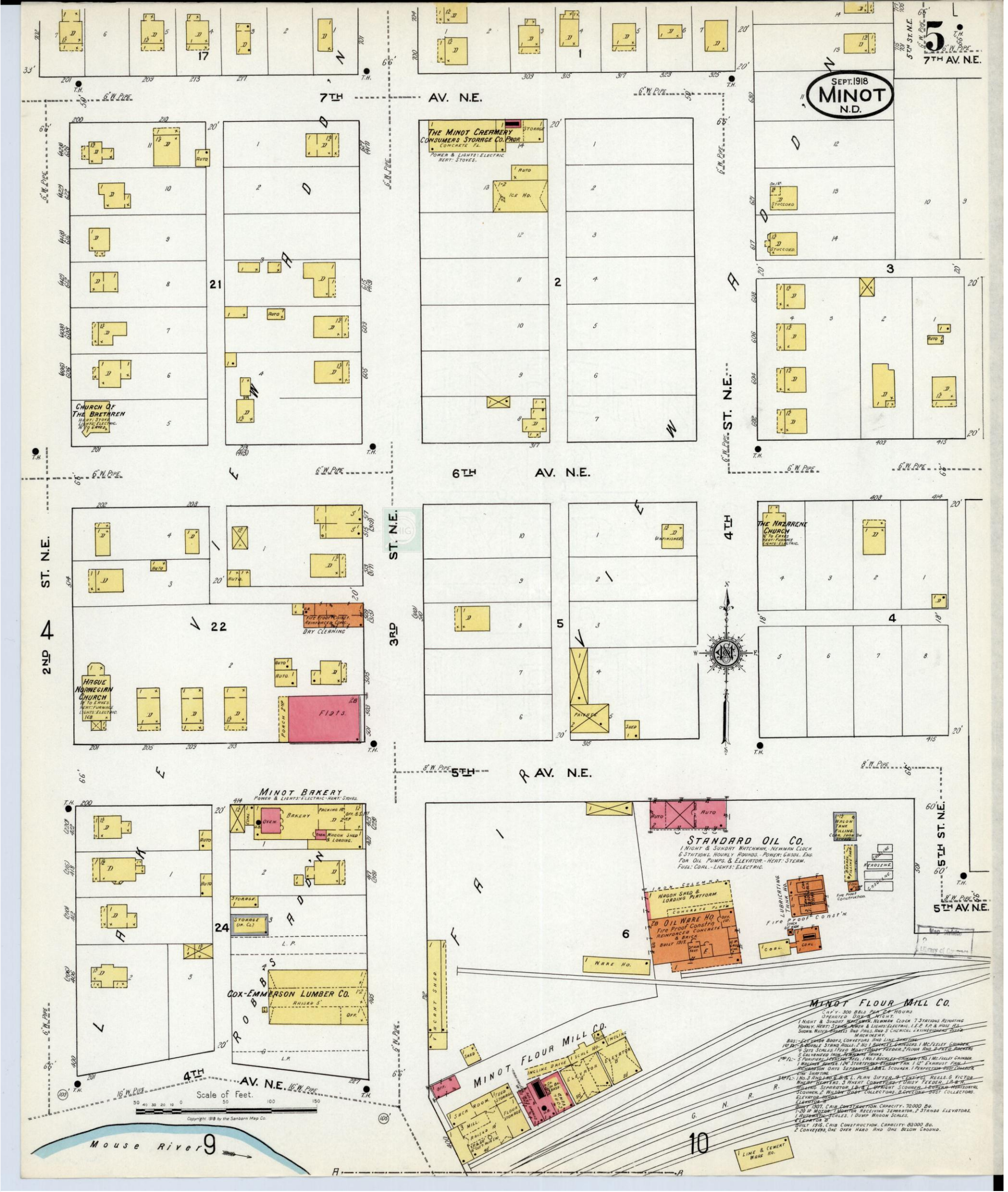
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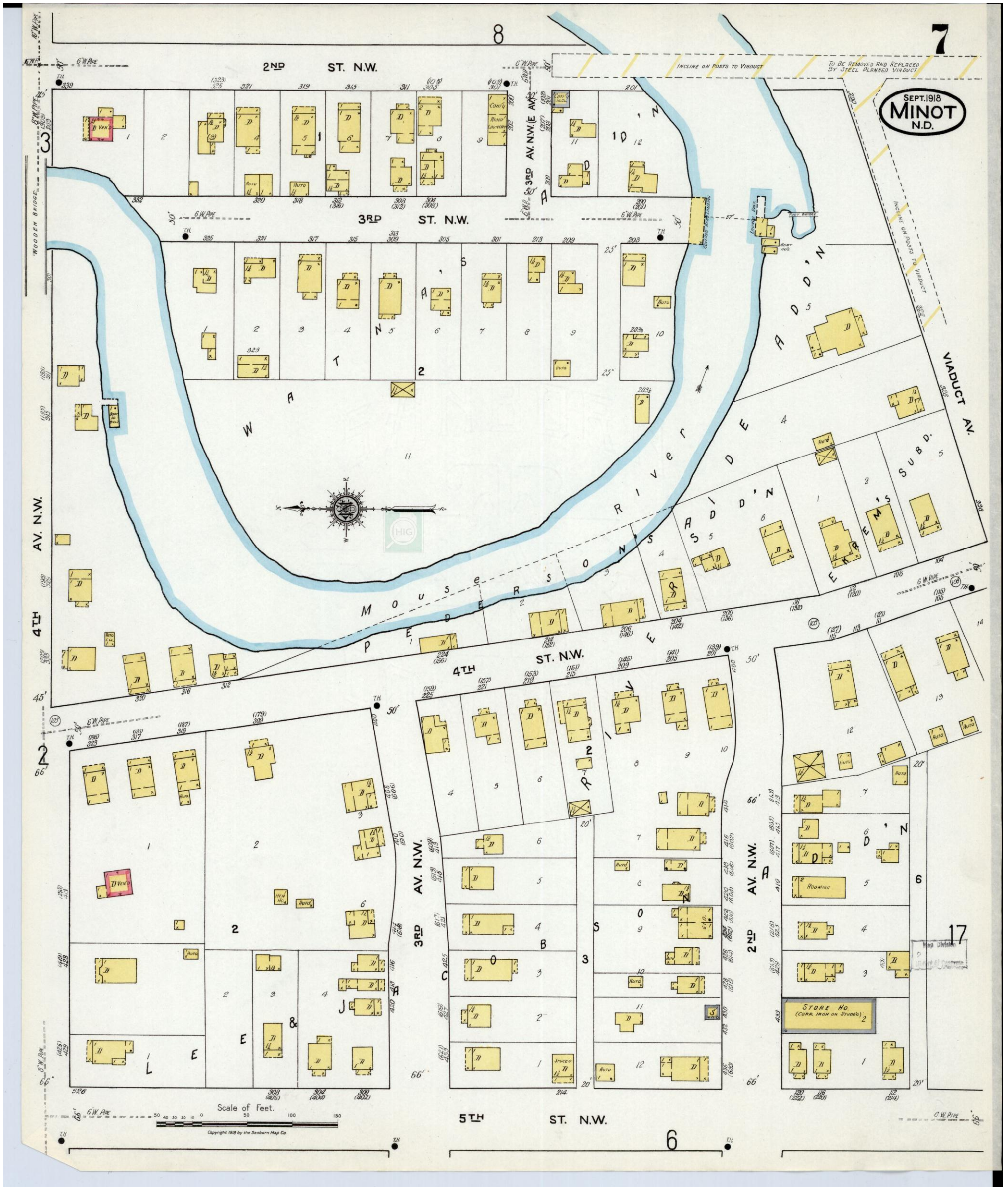
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Map Type: Fire Insurance
Publisher: Sanborn Map Co.

1918

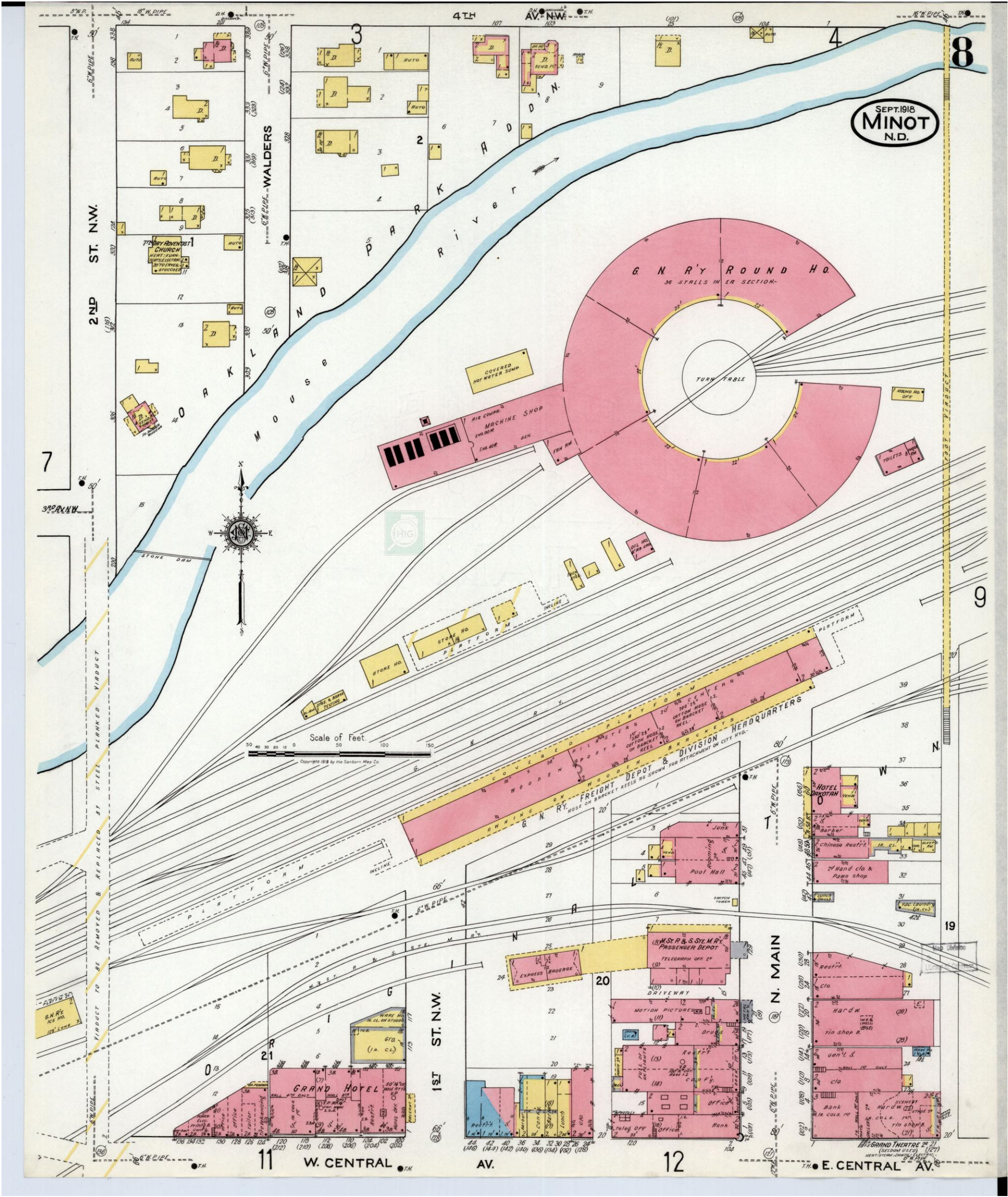
Minot, ND

Map Date: September 1918
Revised Date:
Republished:
Sheet Number: 7

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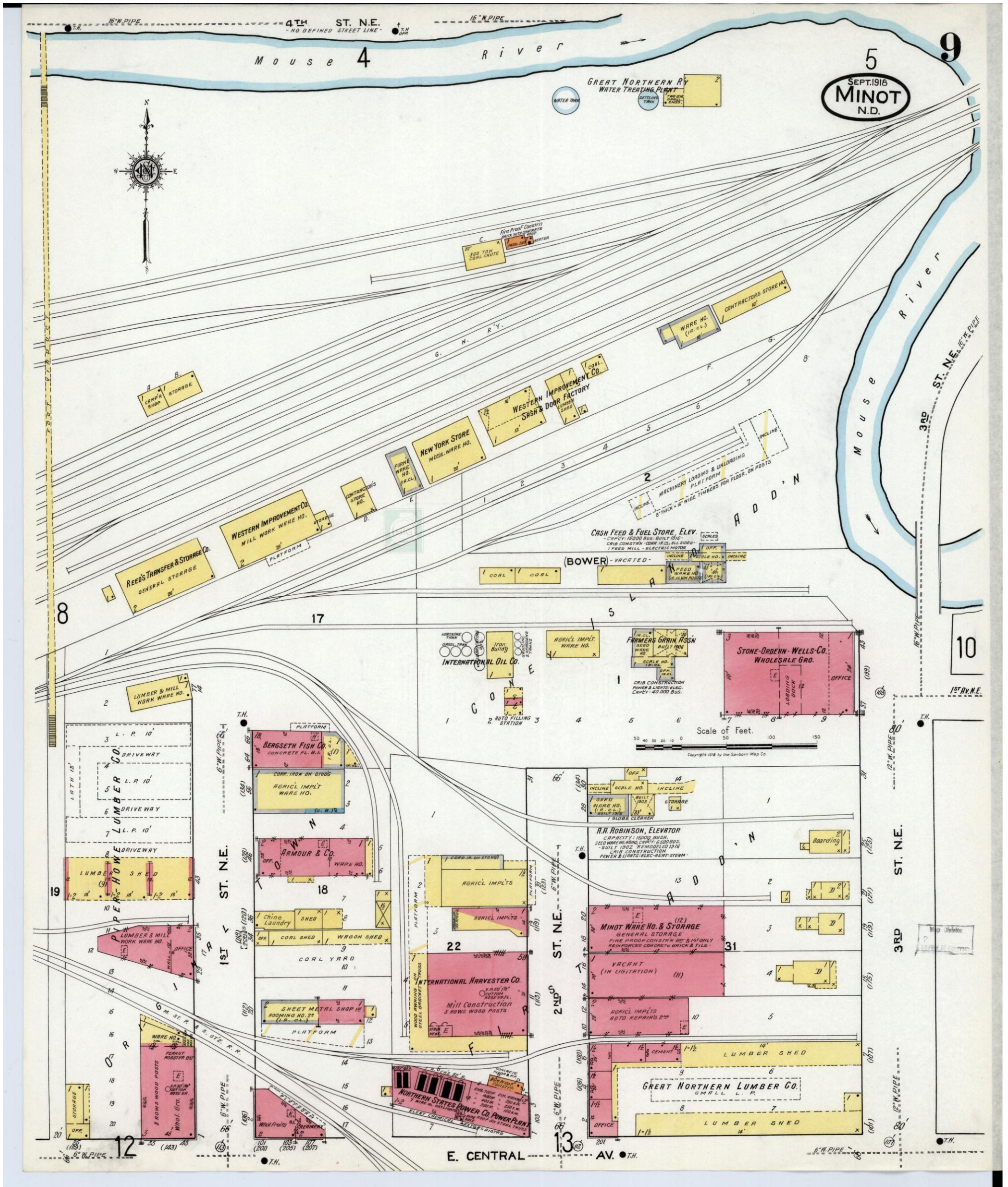
1918

Minot, ND

Map Date: September 1918
Revised Date:
Republished:
Sheet Number: 8

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1918

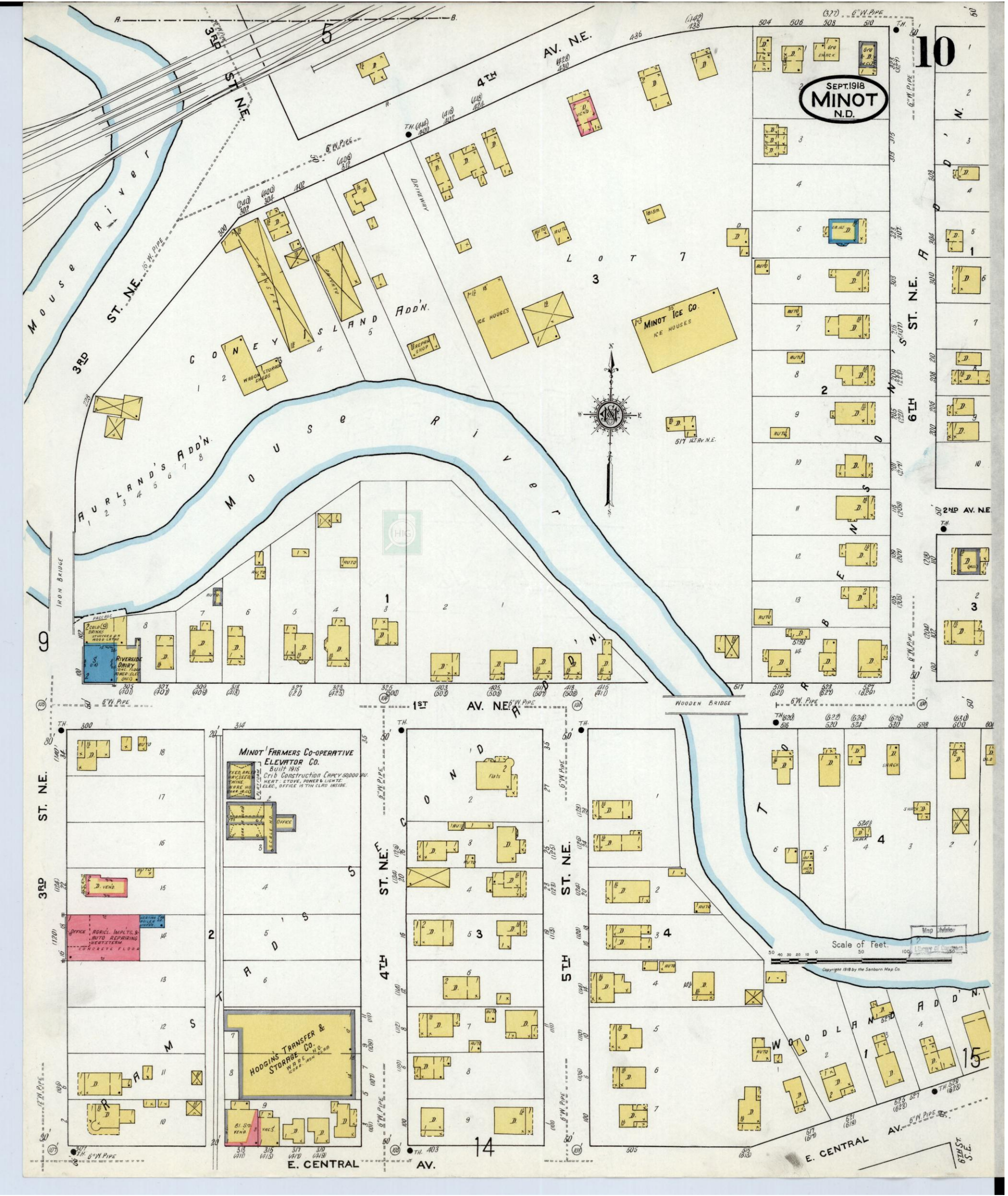
Minot, ND

Map Date: September 1918
Revised Date:
Republished:
Sheet Number: 9

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Map Date: September 1918
Revised Date:
Republished:
Sheet Number: 10

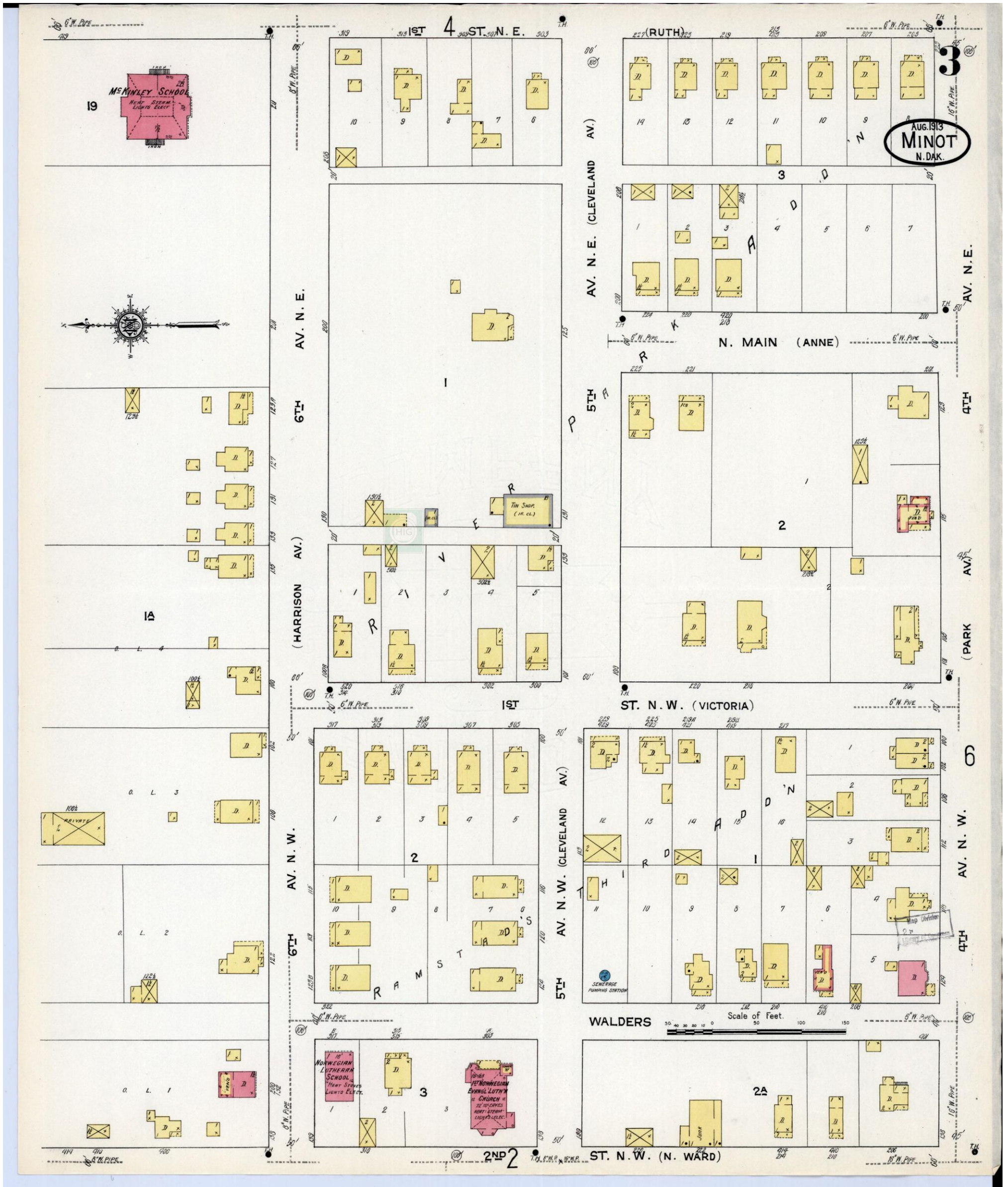
1918

Minot, ND

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Map Type: Fire Insurance
Publisher: Sanborn Map Co.

1913

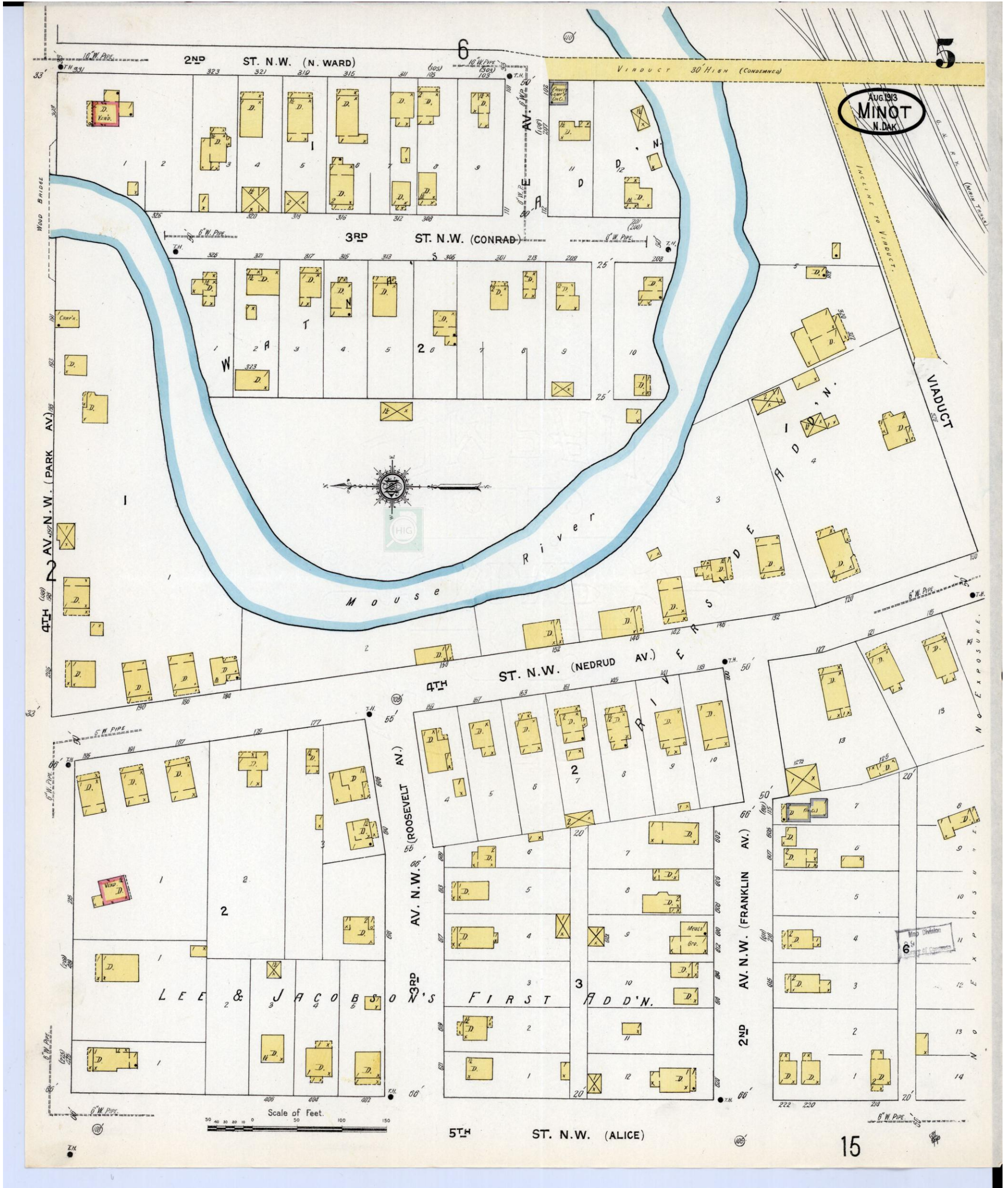
Minot, ND

Map Date: August 1913
Revised Date:
Republished:
Sheet Number: 3

HIG Project No. 1513281

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Map Type: Fire Insurance
 Publisher: Sanborn Map Co.

1913

Minot, ND

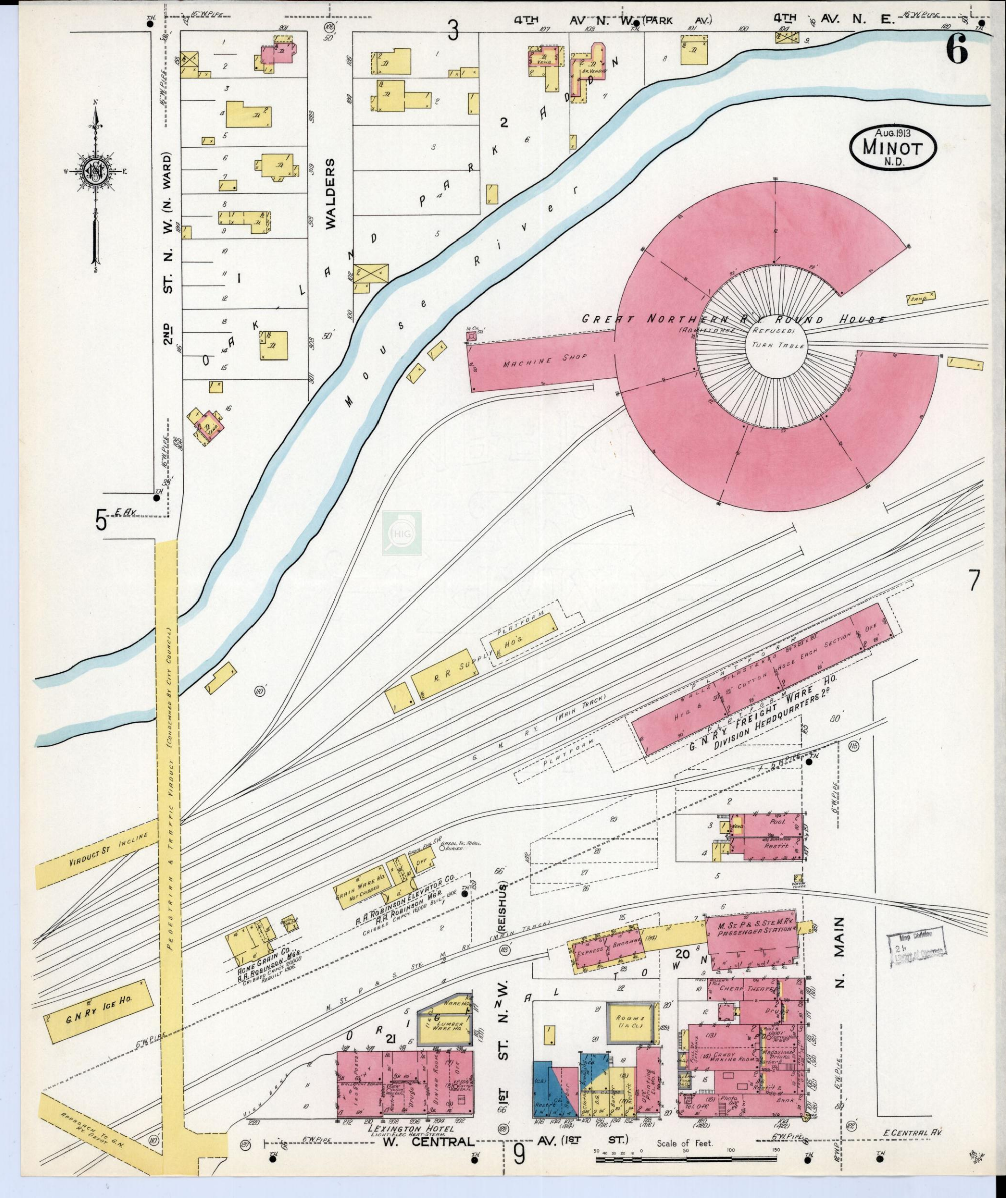
Map Date: August 1913
 Revised Date:
 Republished:
 Sheet Number: 5

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Publisher: Sanborn Map Co.

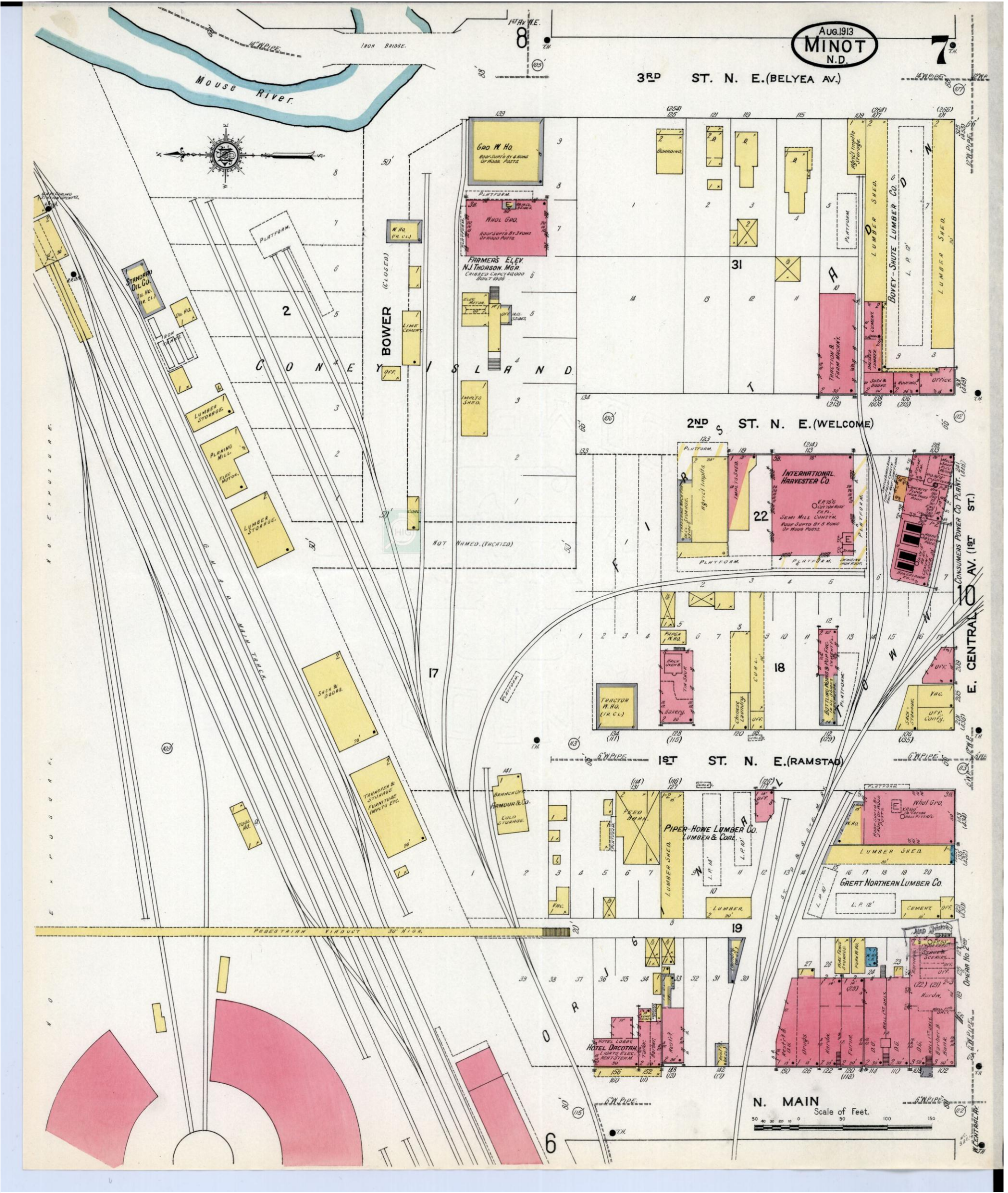
1913

Minot, ND

Map Date: August 1913
Revised Date:
Republished:
Sheet Number: 6

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Map Type: Fire Insurance
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1913

Minot, ND

Map Date: August 1913
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Republished:
Sheet Number: 7

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Map Type: Fire Insurance
Publisher: Sanborn Map Co.
Map Date: August 1913
Revised Date:
Republished:
Sheet Number: 8

1913

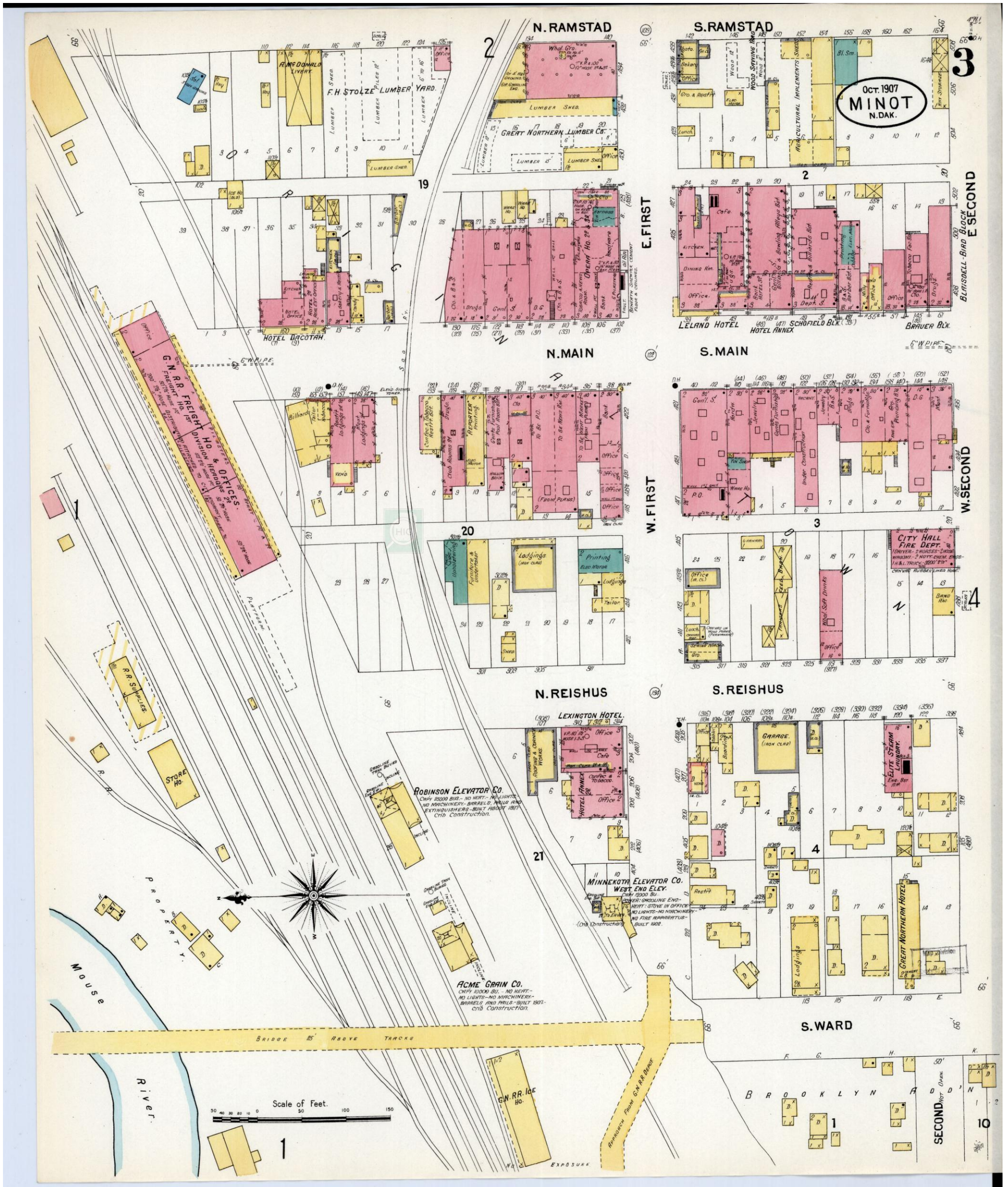
Minot, ND

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Map Type: Fire Insurance
Publisher: Sanborn Map Co.

1907

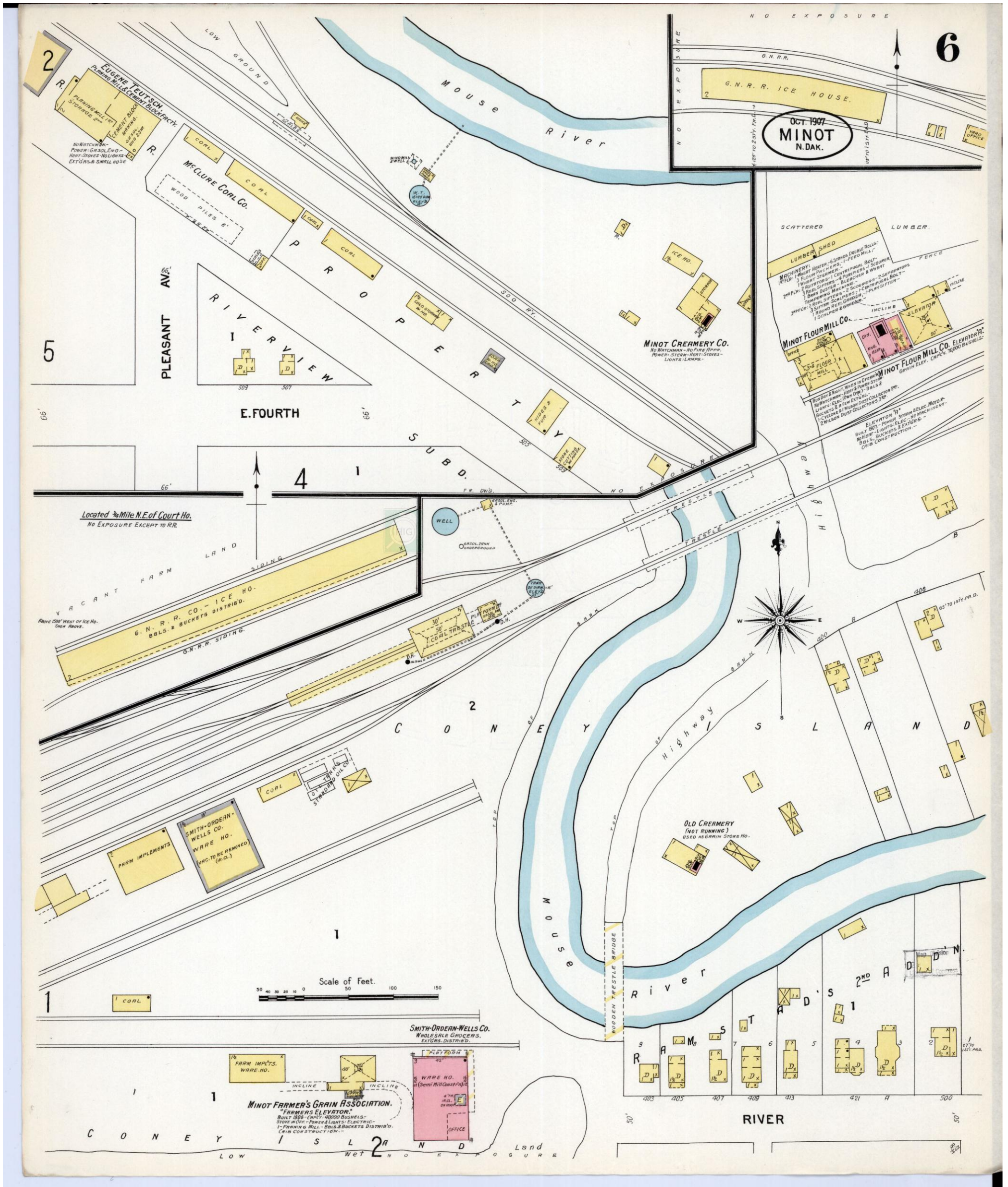
Minot, ND

Map Date: October 1907
Revised Date:
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Sheet Number: 3

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Map Type: Fire Insurance
 Publisher: Sanborn Map Co.

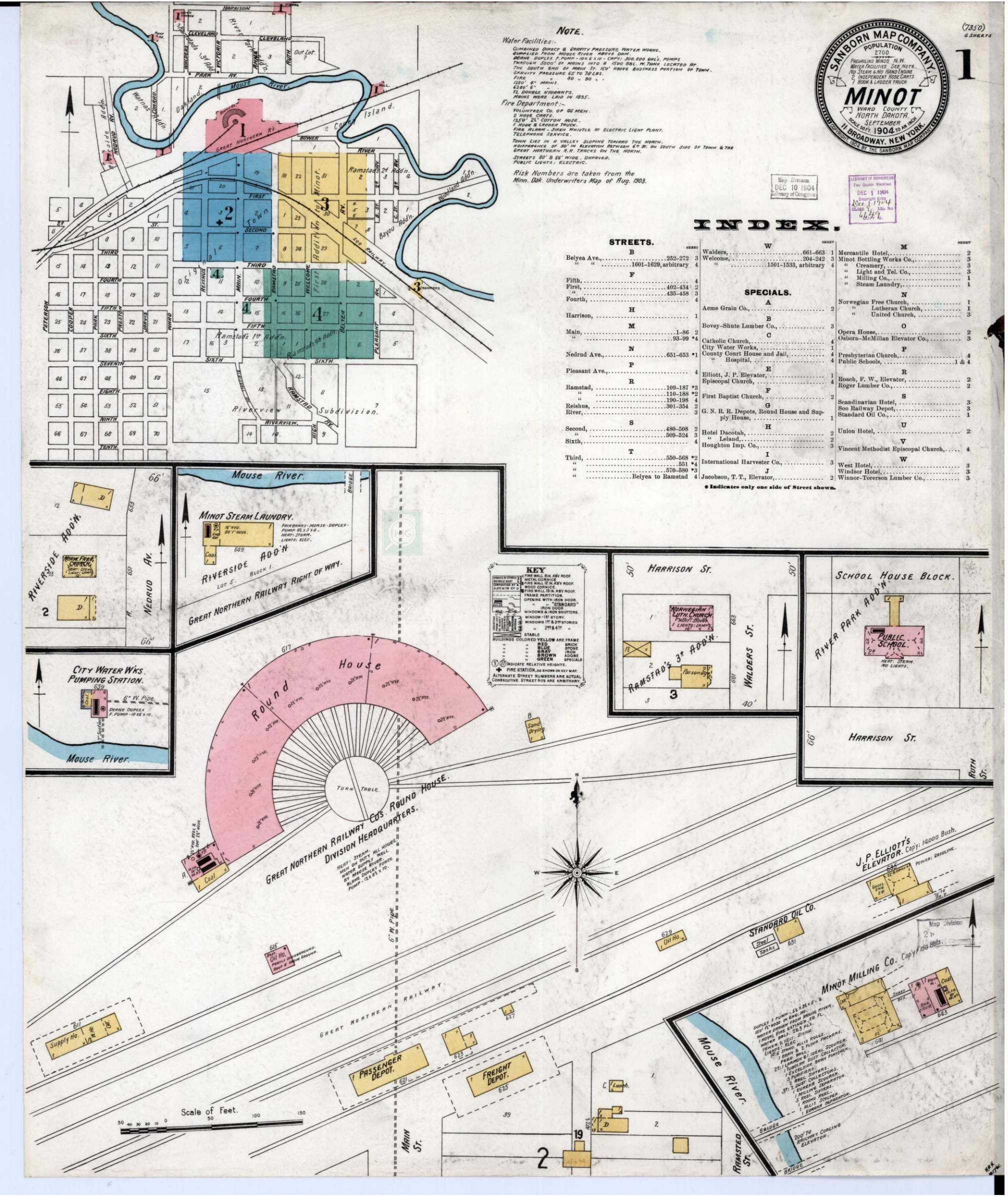
1907

Minot, ND

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Map Type: Fire Insurance
Publisher: Sanborn Map Co.

1904

Minot, ND

Map Date: September 1904
Revised Date:
Republished:
Sheet Number: 1

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NEW NEIGHBOR

13

3RD ST SE - 4TH AVE NW

3RD ST SE Cont'd

- 1 ☛ Keller Danielle ✓
 2 Mehl Connie I ✓ [8]
 4 Soine Rita R ✓ [4]701-838-4588
+ 16TH AVE SE BEGINS
BUSINESSES 79 **HOUSEHOLDS 77**

3RD ST SE (SURREY)

- **ZIP CODE 58785 CAR-RT R001**
 201 Lukenbach Wayne & Roberta R ✓ [35] (1974)701-839-5468
 202 Siewert Gary & Linda L ✓ [7] (1974)701-852-0859
 207 Storkson Wayde A & Sarah ✓ [9] (1974)701-839-5468
HOUSEHOLDS 3

3RD ST SW (MINOT)

- **2ND AVE SW CONTINUES**
 • **ZIP CODE 58701 CAR-RT C023**
 200 FIRST BAPTIST CHURCH churches ✓ @701-852-4533
 Holt Shirley ✓ [3]
+ SUMMIT DR INTERSECTS
+ SUMMIT DR INTERSECTS
+ WESTERN AVE INTERSECTS
+ 3RD AVE SW CONTINUES
+ SUMMIT DR INTERSECTS
 • **ZIP CODE 58701 CAR-RT C035**
 412 ☛ Rylander Dean A ✓ (1939)
 420 REHAB SERVICES alcoholism info/treatment ctrs ✓ @701-839-9679
 TRINITY HEALTH MENTAL HEALTH mental health serv ✓ @701-857-2715

BURDICK EXWY W INTERSECTS

SUMMIT DR BEGINS

- 800 Anderson Edward A & Myrtle E ✓ [43] (1952)701-839-7053
 803 Kee Malena A ✓ [5]
 Kinard Eugene ✓ [5]
 Stevens Troy D ✓ [5] (1948)
 Stevens Malena
 804 Walter Edwin J ✓ [19] (1952)
 Walter Dorothy A
 805 ☛ Prissel Chelsey J ✓
 ☛ Rademacher Steven P ✓ (1946)
 809 Poole Gloria M ✓ [17]
 Poole Dillon

A AVE SW INTERSECTS

- 812 Rubbelke Nancy R & Robert J ✓ [24] (1946)701-838-3454
 820 ☛ Prouditt Heidi ✓
 825 ☛ Anderson Melissa ✓
 Duchsherer Matthew D ✓ [2] (1946)
 Duchsherer Samantha
 830 A Ganje Daniel R ✓ [21]701-839-1514
 B May Priscilla J ✓ [22]701-838-2334
 C Houge Clyde H & Janell K ✓ [19]701-838-4922
 D Granheim Carol L ✓ [19]701-839-3686
 831 Nettleton Gene E & Lori J ✓ [14] (1950)701-852-2479
 840 No Current Listing
+ 9TH AVE SW INTERSECTS
 901 Hoevenm Marcela ✓ [3]
 902 Muus Steven P [26] (1928)
 906 ☛ Breittling Joel ✓
 Woodard Kara M ✓ [2]
 912 Lucy Michael A & Nancy A ✓ [23] (2000)
+ 11TH AVE SW CONTINUES
+ 13TH AVE SW CONTINUES
 • **ZIP CODE 58701 CAR-RT C017**
 1305 Weltolik Christoph B & Mandy M ✓ [11] (1950)
 1316 Kolobakken Kelly ✓ [9] (1971)
 Salgado David C ✓ [5] (1971)
 1317 Brabant Roger L & Juell K ✓ [40] (1956)701-839-6577
 1318 Andrade Clyde M ✓ [5] (1971)701-858-9342
 1320 Rust Jason T & Teina M ✓ [8] (1984)701-852-3655
 1321 Burckhard Mark P ✓ [20] (1917)701-838-4543
 Burckhard Michelle M701-838-4543
 1324 Vinje Wade L ✓ [3] (1941)
 Vinje Michaela
 1327 Peterson Amber E ✓ [4]
 1330 Henderson Stanton L & Barbara W ✓ [30] (1929)701-839-5058
 1334 Orne Daniel J ✓ [15] (1950)
 1335 Heinze Robert J ✓ [37] (1939)701-839-2919
 Heinze Douglas A701-839-2919

14TH AVE SW INTERSECTS

- BUSINESSES 3** **HOUSEHOLDS 37**
3RD ST SW (SURREY)
 • **ZIP CODE 58785 CAR-RT R001**
 130 ☛ Kleppe Ashley M ✓ (1974)
 Schnrock Carissa ✓ [5] (1974)
 132 No Current Listing
 140 Sasse Jarvis J & Marla ✓ [10] (1974)
 231 Reichenberger Megan ✓ [13] (1974)
 233 Langley Megan [2]
 239 Staggs Ryan E & Alyssa ✓ [8] (1974)701-852-6653
 241 No Current Listing
HOUSEHOLDS 8

3RD ST SW (SURREY)

- **ZIP CODE 58785 CAR-RT R001**
 130 ☛ Kleppe Ashley M ✓ (1974)
 Schnrock Carissa ✓ [5] (1974)
 132 No Current Listing
 140 Sasse Jarvis J & Marla ✓ [10] (1974)
 231 Reichenberger Megan ✓ [13] (1974)
 233 Langley Megan [2]
 239 Staggs Ryan E & Alyssa ✓ [8] (1974)701-852-6653
 241 No Current Listing
HOUSEHOLDS 8

4TH AVE E (MAKOTI)

- **ZIP CODE 58756 CAR-RT H002**
 11 Johnson Darrell G ✓ [5] (1961)701-726-5638
HOUSEHOLDS 1

4TH AVE NE (BERTHOLD)

- **ZIP CODE 58718 CAR-RT R001**
 400 Feickert Brian ✓ [9] (1972)701-838-3237
HOUSEHOLDS 1

4TH AVE NE (KENMARE)

- **ZIP CODE 58746 CAR-RT R002**
 111 ☛ Benson Melanie ✓
 Nilsen Tina ✓ [2]701-385-3237
 25 Steen June A ✓ [29]701-385-3286

4TH AVE NE Cont'd

- 26 Caroline Patricia L ✓ [2]701-385-4501
 28 Edwards Cody [5]701-385-3129
 31 Benson Karen M ✓ [7]701-385-4376
 34 Struck Gerhardt ✓ [4]701-385-4376
 35 ☛ Sather Gary
 36 Rasmussen Gerald A ✓ [3]701-385-4733
 36 Rasmussen Arlie701-385-4733
 37 Dionne Julius S ✓ [17]701-385-4266
 38 Voigt Joyce M [4]
 39 ☛ Smith Marilyn I701-385-4481
 207 Nelson Cody F & Jennifer ✓ [2] (1952)701-385-4705
 208 Livingston Sandra K [9] (1952)
 215 Michel Tory J ✓ [6] (1952)701-385-3457
 220 Grosser Darcy L & Tammy J ✓ [7] (1952)701-385-3850
 301 Bruner Jason A ✓ [8] (1952)701-385-3000
 BRUNER'S FENCING fence contractors ✓701-400-5054
 304 Brekhuis Boyd [2] (1952)
 521 Westby Arlow & Marcella M ✓ [20] (1948)701-385-4754
BUSINESSES 1 **HOUSEHOLDS 19**

4TH AVE NE (MINOT)-FROM 399 6TH ST NE

- **4TH AVE NW CONTINUES**
+ MAIN ST N INTERSECTS
 • **ZIP CODE 58703 CAR-RT C007**
 11 No Current Listing
+ 1ST ST NE INTERSECTS
 • **ZIP CODE 58703 CAR-RT C006**
 109 - 117 No Current Listing (3 Hses)
+ 2ND ST NE INTERSECTS
 203 ☛ Bagwell Jessica ✓
 ☛ Martin Thomas ✓
 207 - 209 No Current Listing (2 Hses)
 211 Mattson Michael H & Holly B ✓ [15] (1922)
 400 MINOT WELDING CO welding ✓ @701-838-0513
 404 Feather Evangeline E ✓ [13]
 405 SOURIS RIVER DESIGNS & HOME home improvements ✓ @701-852-7605
 612 TARGET ROOFING INC roofing contractors ✓ @701-838-4482
 614 TAMARACK NORTHLAND dry wall contrs equip/supl @701-509-3356

- 701 Jensen Larry D [9]
 Jensen Monique M
 STEAM BRO PRO CLEAN RESTORATN carpet & rug cleaners ✓
 @701-839-5466

- 706 No Current Listing
+ 8TH ST NE INTERSECTS
+ 9TH ST NE INTERSECTS
+ 10TH ST NE INTERSECTS
+ 3RD ST NE INTERSECTS
 1620 No Current Listing
 1640 LOWE'S FLORAL garden centers ✓701-838-2868
 • **ZIP CODE 58703 CAR-RT R008**
 8300 Dailey Joseph M & Paulette D ✓ [18] (1961)701-838-6822
+ 27TH ST SE INTERSECTS
 9200 LAFARGE NORTH AMERICA cement-whol ✓ @701-852-8163
 9460 Burckhard Blaine A & Sonda M ✓ [6] (1976)701-838-4358
 9690 Myers Raymond E ✓ [29] (1966)701-838-7637
BUSINESSES 7 **HOUSEHOLDS 16**

4TH AVE NW (BURLINGTON)

- **ZIP CODE 58722 CAR-RT R001**
 15815 Groninger Delwyn E & Karen M ✓ [19] (1975)701-725-4654
+ 156TH ST NW INTERSECTS
HOUSEHOLDS 1

4TH AVE NW (DES LACS)

- **ZIP CODE 58733 CAR-RT R001**
 15501 Schaefer Gregg A ✓ [8] (1973)
 Schaefer Kari
+ 156TH ST NW INTERSECTS
 16910 Schaefer Jeffery M ✓ [20] (1975)
 Schaefer Kacie L
 21515 SCHAEFER FARM nonclassified establishments ✓ @701-725-4321
 Schaefer Sharon A & Richard R ✓ [20] (1972)701-725-4321
+ 268TH ST NW INTERSECTS
 23315 Kieven Peter A & Janice D ✓ [20] (1974)701-725-4380
BUSINESSES 1 **HOUSEHOLDS 4**

4TH AVE NW (KENMARE)-FROM 399 5TH ST NW

- **ZIP CODE 58746 CAR-RT R002**
 402 Neubauer Randy R & Arlene M [16] (1966)
 419 Wiedner Greg A ✓ [11] (1966)
 Wiedner James J
 509 Kling Clifford ✓ [10] (1966)701-385-4819
 Kling Eddy M701-385-4819
 510 Malhomme Helen R ✓ [16] (1966)701-385-4777
 517 Pausig Richard S & Alice F ✓ [12] (1966)701-385-3355
 520 Helmers Arlene J ✓ [8] (1966)701-385-4865
+ 6TH ST NW INTERSECTS
 617 Peterson Thomas R & Margaret H ✓ [13] (1966)
 620 Zorn Chad G & Jennifer E ✓ [4] (1966)701-385-4079
HOUSEHOLDS 8

4TH AVE NW (MINOT)

- **ZIP CODE 58703 CAR-RT C007**
 12 No Current Listing
 14 Jensen Heidi J [3]
+ 1ST ST NW CONTINUES
 100 West Teresa N ✓ [2]
 102 ☛ Carlson Krystal ✓ @
 Lord Troy [2]
 103 GIFTS DAKOTA STYLE gift shops ✓ @701-852-5604
 HOME SWEET HOME gift shops ✓ @701-852-5604
 Johnson Mark L & Linda F ✓ [5] (1939)
 105 - 106 No Current Listing (2 Hses)
 110 ☛ Hanks Tiffany ✓
 Mesa V [9]
 111 Struckness Dale E & Marion J ✓ [38] (1945)701-838-7398

4TH AVE NW Cont'd

- 114 De Vries Carol L ✓ [4]701-837-8860
+ WALTERS ST BEGINS
+ N BROADWAY INTERSECTS
+ 3RD ST NW ENDS
+ 4TH ST NW CONTINUES
 • **ZIP CODE 58703 CAR-RT C009**
 400 Wood Reginald L & Betty L ✓ [20] (1939)
 413 - 414 No Current Listing (2 Hses)
 417 ☛ Pedersen Ronda ✓ (1939)
 419 Chernoff Suzanne K ✓ [20] (1939)
 422 Engleson Roderic F & Peggy M ✓ [20] (1900)701-839-5821
 423 Koland Gerald R & Judith M ✓ [18] (1939)701-852-4610
 426 Runyan Thomas A & Donna A ✓ [17] (1904)701-839-0024
 429 ☛ Magandy Mona (1939)
+ 5TH ST NW INTERSECTS
 504 ☛ Green Brad ✓
 505 Garbe Robert K ✓ [9] (1939)
 510 Carr James E & Carol I ✓ [5] (1905)701-838-3548
 DAKOTAH ROSE BED & BREAKFAST bed & breakfast
 accommodations ✓ @701-838-3548
 Jelleberg Robert ✓ [16]
+ 6TH ST NW INTERSECTS
 600 A Ofsthun Steve D [27]
 608 Yester James R ✓ [28] (1948)701-839-4171
 610 Staniger Aaron T ✓ [10] (1930)701-838-3224
 Staniger John701-838-3224
 618 Bechtold Margery M ✓ [22] (1945)
 620 No Current Listing
+ 7TH ST NW INTERSECTS
 700 Ofsthun Josh ✓ [2]
 702 Cain Jeremy [4]
 706 Cooper Robert J & Barbara J ✓ [33] (1938)701-838-8580
 708 Bolinger Noel A ✓ [5] (1939)
 Bolinger Hannah
 712 Nicholes Nicole M [6]
 716 ☛ Erickson Derek ✓
 720 ☛ Burandt Thomas (1939)
 COMPLEAT MOTHER MAGAZINE publishers-magazine ✓ @701-852-2822

8TH ST NW INTERSECTS

- 800 Bradwisch Edwin L & Annette P ✓ [13] (1939)
 806 Prater Joseph R [16] (1939)
 809 Sullivan Wanda [3]
 812 No Current Listing
 813 Coody Beverly A [5] (1936)
 814 Fogarty Ryan L ✓ [9] (1935)
 Fogarty Mike P
 818 - 822 No Current Listing (2 Hses)
 826 Schmalz Joseph B ✓ [21] (1965)701-838-4836
 Schmalz Loren M701-838-4836
+ 9TH ST NW INTERSECTS
 900 Otis Dayna M ✓ [12] (1939)
 901 No Current Listing
 902 ☛ Fauque Eddy
 905 - 906 No Current Listing (2 Hses)
 910 Lillis Matthew C & Cathy J ✓ [6] (1927)
 915 Joyner Richard A & Lori ✓ [11] (1921)
 916 Blong Phillip L ✓ [4]
 917 Cartier Brian M ✓ [33] (1918)
 Cartier Steven B
 920 Sipma Shaun R ✓ [8] (1936)
 Sipma Keri J
 1000 No Current Listing
 1001 Hanson Jerry D ✓ [6] (1945)701-838-6528
 Hanson Tammy701-838-6528
 1004 Hartman Sasha ✓ [4]
 1005 No Current Listing
 • **ZIP CODE 58703 CAR-RT C019**
 1212 OAK PARK SHOPPING CTR shopping centers & malls
 C Mettler Carla [4]
 1224 ADVANTAGE APPLIANCE & ELECT appliances-hshld- major-
 dls ✓ @701-838-9400
 1300 A A & A INVESTMENT real estate ✓ @701-839-6600
 ALLEN REALTY CO REALTORS real estate ✓ @701-838-8400
 1506 Collins Audrey O ✓ [19] (1927)701-838-4711
 1512 LOAF'N JUG convenience stores ✓ @701-852-5331
+ 16TH ST NW INTERSECTS
 1602 B FRANCIS LAW OFFICE attorneys ✓ @701-837-8500
 1609 ADULT LEARNING CTR schools ✓ @701-857-4488
 MINOT ADULT LITERACY VOLUNTEER reading improvement
 instructio ✓ @701-852-2614
 1620 ☛ Braun Jesse
+ 17TH ST NW BEGINS
 1705 Berdahl Linda [6]
 CORNERSTONE ADDICTION SVC marriage & family
 counselors ✓ @701-839-0474
 EATON & ASSOC psychologists ✓ @701-839-0474
 EDWARDS KATHY T nurses- practitioners ✓ @701-839-0474
 VEAZEY BRYCE L social workers ✓ @701-839-0474
 1720 BIBLE FELLOWSHIP CHURCH churches ✓ @701-838-0916
+ 18TH ST NW INTERSECTS
 1800 ATO SERVICE video equip- serv & rpr ✓ @701-837-9773
 FATHER TIME'S WATCH REPAIR watches-rpr ✓ @701-838-0960
 GELLER FLOORING floor laying refinishing/resur ✓ @701-837-0400
 ☛ Smith William M & Margaret ✓
 1800 C Steele Jim ✓ [4]
 1801 RASMUSON APPRAISAL CONSULTANT appraisers ✓ @701-852-4861
 1809 Moseanko Mary F ✓ [7] (1956)701-837-9234
 Moseanko Lauralee J701-837-9234
 1810 No Current Listing
 1813 Moya Lori [3]
 1820 ALICE'S BEAUTY SALON beauty salons ✓ @701-838-3068
 L S DRYWALL INC dry wall contractors ✓ @701-858-1830
 Sedevie Darrell H [20] (1956)
 Sedevie Shirley M

3RD ST SE Cont'd

WARD COUNTY EMERGENCY MGMT county government701-857-6534
 WARD COUNTY EXTENSION SVC government offices-county701-857-6450
 WARD COUNTY FAMILY NUTRITION government offices-county701-857-6450
 WARD COUNTY FEDERAL & STATE government offices-county701-857-6412
 WARD COUNTY FLOOD PLAIN ZONING county government701-857-6430
 WARD COUNTY JAIL county govt701-857-6530
 WARD COUNTY JUVENILE COURT county government-courts701-857-6650
 WARD COUNTY JUVENILE DETENTION government offices-county701-857-6518
 WARD COUNTY LAND RECORDS government offices-county701-857-6411
 WARD COUNTY MARRIAGE LICENSES government offices-county701-857-6477
 WARD COUNTY NDSU EXTENSION government offices-county701-857-6444
 WARD COUNTY PASSPORTS government offices-county701-857-6411
 WARD COUNTY PERSONNEL government offices-county701-857-6499
 WARD COUNTY PROPERTY TAX county government701-857-6430
 WARD COUNTY PUBLIC ADMIN government offices-county701-857-6404
 WARD COUNTY REAL ESTATE RCRDNG government offices-county701-857-6411
 WARD COUNTY REAL ESTATE TAX county government701-857-6426
 WARD COUNTY RECORDER government offices-county701-857-6410
 WARD COUNTY SHERIFF sheriff701-857-6500
 WARD COUNTY SHERIFFS DEPT sheriff701-857-6516
 WARD COUNTY SUPERINTENDENT schools701-857-6495
 WARD COUNTY TREASURER county government701-857-6420
 WARD COUNTY UNIFORM COMMERCIAL government offices-county701-857-6412
 WARD COUNTY VETERANS SVC government offices-county701-857-6492

• **ZIP CODE 58701 CAR-RT C008**
 407 ANDERSON MARY drug abuse/addiction info/trea701-857-2480
 Duchsherer Jeanie
 Fischbach Arie [2]
 JEANOTTE FRANK drug abuse/addiction info/trea701-857-2480
 KIDNEY BRIETTA drug abuse/addiction info/trea701-857-2480
 KRAUSE SKIP drug abuse/addiction info/trea701-857-2480
 RETIRED & SENIOR VOLUNTEER senior citizens serv701-852-3799
 SANDBO SHERMAN drug abuse/addiction info/trea701-857-2480
 THOMAS CHERYL drug abuse/addiction info/trea701-857-2480
 TRINITY ADDICTION TREATMENT alcoholism info/treatment ctrs701-857-2480
 TRINITY HOSPITAL-ST JOSEPH'S hospitals701-857-2000
 TRINITY MENTAL HEALTH SVC mental health serv701-857-2360
 WOYTIUK JOY-LYN drug abuse/addiction info/trea701-857-2480

420 CHILD/ADOLESCENT PARTIAL HOSP mental health serv701-857-2715

510 - 511 No Current Listing (2 Hses)
 512 Hoffer Jessica L [8]701-852-0668
 516 Lang June H [25]701-839-5455
 525 Hicks Vicki L [7]701-839-5455
 Hicks Nicole E
 529 Stutheit Christopher B & Tiffany [3]701-852-4914
 600 Ross Stanley K & Katherine R [12]701-838-8572
 601 Obranovich Chris701-838-8572
 Obranovich Kimberly
 605 Darby Robert E & Rhonda L [16]701-838-1904
 611 Soronio Deoniso R [7]701-839-9380
 Soronio Betty701-839-9380
 617 Conway Richard A [3]701-838-8741
 Conway Maria
 625 Klimpel Dennis D & Karen A [13]701-838-0798
 629 Long Christopher G & Deborah L [10]701-839-0001
 700 Mantz Todd J [12]701-852-9300
 707 Telin Todd J & Rebecca J [16]701-839-6397
 710 Barnes Dennis E [39]701-839-6397
 Barnes Gladys I701-838-8741
 712 Gage Charles A & Gale M [17]701-838-9217
 809 Smith Ronald K [17]701-838-9217
 Smith Brady701-838-9217
 810 Dickerson Brian E & Linda K [7]701-837-5912
 812 Moch Trevor D & Kathleen M701-839-3918
 814 No Current Listing
 815 Kraft Patrick P701-838-3666
 818 Carroll Michelle M [18]701-838-3666

3RD ST SE Cont'd

819 Ness Leo701-839-3257
 823 Samuelson Reuben W & Stacy L [25]701-839-3257
 825 McLeod Louis E Jr & Ernestine E [18]701-852-4817
 826 Fraley James A & Barbara K [36]701-838-6843

• **ZIP CODE 58701 CAR-RT C004**
 900 Lyon John M & Carolyn R [30]701-852-2005
 901 Carpenter Marshall [2]
 905 Carpenter Sara J [5]701-852-7113
 906 Knodel Danell J
 Knodel Kay
 908 Williams Doris M [32]701-838-1086
 909 Borgen Byron J [7]701-839-2407
 912 Gruzensky Matt [25]701-839-3328
 913 No Current Listing
 916 Vernon Daniel & Amie701-837-8819
 919 Thomason Patti L [9]
 920 Haberman Donald S & Madonna S [23]701-839-7154

921 No Current Listing
 925 Roberts Dennis N & Elizabeth A [16]701-839-1676
 926 Saltsman Mary [43]701-839-5925
 1000 No Current Listing
 1006 Tiller George R [24]701-839-5941
 1008 Welder Paula A [8]
 2 Seabolt Paula A [7]701-839-5941
 1012 Cree Matthew J701-839-5941
 1016 Tompkins Becky701-839-5941
 1020 Sande Jacky A & Jacqueline A [18]701-839-5941
 1106 No Current Listing
 1108 Schalesky Marty D & Carol J [24]701-852-8710

• **ZIP CODE 58701 CAR-RT C029**
 1704 Laqua Richard W & Cecilia M [32]701-838-6727
 1705 Ringdahl Edwin J [15]701-839-5704
 1710 Haberlack Paul R & Elaine M [34]701-838-7958
 1711 Price Terry C & Sandy R [22]701-838-4854
 1715 Nissen Ronald D & Amy M [7]701-852-8880
 1716 Ressler Wilbert F & Barbara E [33]701-839-4535
 1721 Klimpel Vernon L & Ione L [26]701-839-8244
 1722 Nitsch Paul F & Karen L [33]701-838-7351
 1727 Eskelson Raymond H & Evelyn I [8]
 1728 Brady John A & Naomi K
 1735 Belgard Vickie A [4]

BUSINESSES 69 **HOUSEHOLDS 70**

3RD ST SE (SURREY)

• **ZIP CODE 58785 CAR-RT R001**
 201 Lukenbach Wayne & Roberta R [32]701-839-5468
 202 Lesmann Vernon E [5]701-839-5468
 Siewert Gary [3]
 207 Storkson Wayde & Sarah [5]701-858-9355

HOUSEHOLDS 4

3RD ST SW (MINOT)-FROM 201 8TH AVE SW SOUTH

• **1ST AVE SW CONTINUES**
 • **2ND AVE SW CONTINUES**
 • **2ND AVE SW ENDS**
 • **2ND AVE SW INTERSECTS**
 • **2ND AVE SW CONTINUES**
 • **ZIP CODE 58701 CAR-RT C013**
 200 FIRST BAPTIST CHURCH churches701-852-4533
 • **WESTERN AVE INTERSECTS**
 • **WESTERN AVE CONTINUES**
 • **3RD AVE SW INTERSECTS**
 • **ZIP CODE 58701 CAR-RT C035**
 412 Haugen Jennifer S [3]701-839-7053
 Haugen Jacob T
 • **BURDICK EXPY W INTERSECTS**
 • **SUMMIT DR BEGINS**
 800 Anderson Edward A & Myrtle E [39]701-839-7053
 803 Stevens Troy D & Malena701-852-7240
 804 No Current Listing
 805 St Croix Casey J701-839-7240
 809 Poole Gloria M [13]
 Poole Michelle
 • **A AVE SW INTERSECTS**
 812 Rubbelke Nancy R & Robert J [20]701-838-3454
 820 Hulm Ricky L [10]701-852-1086
 825 Hanson Blake R & Melissa S [8]701-838-5880
 830 A Ganje Daniel R [17]701-839-1514
 B May Priscilla J [18]701-838-2334
 C Houge Clyde H [15]701-838-4922
 C Houge Janell K701-838-4922
 D Granheim Carol L [15]701-839-3886
 831 Nettleton Gene E & Lori [10]701-852-2479
 840 No Current Listing
 • **9TH AVE SW INTERSECTS**
 901 No Current Listing
 902 Muus Steven P [22]701-852-4304
 906 No Current Listing
 912 Lucy Michael A [19]701-838-7634
 • **11TH AVE SW CONTINUES**
 • **13TH AVE SW CONTINUES**
 • **ZIP CODE 58701 CAR-RT C017**
 1305 - 1316 No Current Listing (2 Hses)
 1317 Brabandt Roger L & Juel K [36]701-839-6577
 1318 Deegan Mary701-839-6577
 1320 Rust Jason T & Teina M701-852-3655
 1321 Burckhard Mark P & Michelle M [16]701-838-4543

3RD ST SW Cont'd

1324 O'Brien William J & Olga [25]701-858-8999
 1327 No Current Listing
 1330 Henderson Stanton L & Barbara W [26]701-839-5058
 1334 Volk Kenneth J & Deborah J [16]701-839-6383
 1335 Heinze Robert J [33]701-839-2919
 Heinze Douglas A701-839-2919

• **14TH AVE SW INTERSECTS** **HOUSEHOLDS 30**

3RD ST SW (SURREY)
 • **ZIP CODE 58785 CAR-RT R001**
 114 Volk Richard C [27]701-839-3403
 130 Schriock William T701-839-3403
 132 Baustad Corey701-852-7461
 Boucher Corey A701-837-9001
 140 Sasse Jarvis J [6]701-837-9001
 Sasse Marla701-837-9001
 231 Dockter Heather701-852-6653
 239 Staggs Ryan E & Alyssa [4]701-837-6347
 241 Michels Christopher L [6]701-837-6347

HOUSEHOLDS 8

4TH AVE E (MAKOTI)

• **ZIP CODE 58756 CAR-RT H002**
 81 Anderson Joel701-837-6347

HOUSEHOLDS 1

4TH AVE NE (KENMARE)-FROM 399 4TH ST NE NORTH

• **4TH AVE SE BEGINS**
 • **E DIVISION ST CONTINUES**
 • **ZIP CODE 58746 CAR-RT R002**
 111 Struck Gerhardt701-385-4376
 27 Strokland April D701-385-3383
 30 Garman Hildgarde [7]701-385-4916
 31 Benson Karen M [3]701-385-3129
 33 Charnetzki Arvid L & Constance M [4]701-385-3406
 36 Jorgenson Harriette B [39]701-385-4429
 37 Dionne Julius S [13]701-385-4266

• **2ND ST NE INTERSECTS**
 204 Krueger M701-385-3142
 207 Desjardins Chad & Donna701-385-3453
 215 No Current Listing
 220 Grosser Darcy L [14]701-385-3850

• **3RD AVE NE INTERSECTS**
 301 Bruner Jason A [4]701-385-3000

• **4TH ST NE INTERSECTS**
 521 Westby Arlow & Marcella M [16]701-385-4754

• **6TH ST NE INTERSECTS**
 • **7TH ST NE INTERSECTS**
 • **8TH ST NE CONTINUES**
 • **8TH ST NE CONTINUES**
 • **BROADWAY AVE N ENDS**

HOUSEHOLDS 13

4TH AVE NE (MINOT)-FROM 399 6TH ST NE

• **4TH AVE NW CONTINUES**
 • **MAIN ST N INTERSECTS**
 • **ZIP CODE 58703 CAR-RT C007**
 11 Adkins Emily701-839-3039
 Adkins Robert J
 Bannister Sheryl A701-839-3039

15 J-N-T SECURITY SVC security guard & patrol serv701-852-1562

• **1ST ST NE INTERSECTS**
 109 Arndt Tammy L [3]701-838-6682
 115 Wickman Joseph P [19]701-838-4784
 117 No Current Listing
 • **2ND ST NE INTERSECTS**
 • **ZIP CODE 58703 CAR-RT C027**
 203 Wilson Sacha701-839-5150
 207 No Current Listing
 209 Barton Willard E [2]701-858-0791
 211 Mattson Michael H & Holly B [11]701-858-0791

• **ZIP CODE 58703 CAR-RT C006**
 308 CONNOLE & SOMERVILLE HEATING air conditioning contrs & sys701-839-7944
 400 MINOT WELDING CO welding701-838-0513
 404 No Current Listing
 405 Lebrum David R701-852-7605
 SOURIS RIVER DESIGNS & HOME home improvements701-852-7605
 612 TARGET ROOFING INC roofing contractors701-838-4482

• **7TH ST NE INTERSECTS**
 701 A-1 STEAM BROTHERS carpet & rug cleaners701-839-5466
 TIP TOP MOBILITY wheel chair lifts & ramps701-838-2181

• **8TH ST NE INTERSECTS**
 • **9TH ST NE INTERSECTS**
 • **10TH ST NE INTERSECTS**
 • **3RD AVE NE INTERSECTS**
 1620 No Current Listing
 1640 LOWE'S GARDEN CTR garden centers701-838-2868

• **ZIP CODE 58703 CAR-RT R008**
 8300 Dailey Joseph M & Paulette D [14]701-838-6822

• **27TH ST SE INTERSECTS**

4TH AVE NE - 4TH AVE SW

14

▲ HOMEOWNER

4TH AVE NE Cont'd

9460 Burckhard Blaine A & Sonda M [2] ▲701-838-4358
 9470 No Current Listing
 9690 Bradwisch Wayne A & Vivian C [3]701-839-5751
+ 128TH ST NW BEGINS
BUSINESSES 8 **HOUSEHOLDS 16**

4TH AVE NW (BURLINGTON)

• **ZIP CODE 58722 CAR-RT R001**
 15815 Groninger Delwyn E & Karen M [15] ▲701-725-4654
+ 156TH ST NW INTERSECTS **HOUSEHOLDS 1**

4TH AVE NW (DES LACS)-FROM 401 170TH ST NW

+ 156TH ST NW INTERSECTS
 • **ZIP CODE 58733 CAR-RT R001**
 16910 Schaefer Jeffery M & Julie L [16] ▲701-725-4600
+ 254TH ST NW INTERSECTS
 21515 Schaefer Sharon A & Richard R [16] ▲701-725-4321

+ 268TH ST NW BEGINS

+ 268TH ST NW BEGINS
 23315 [16] Borud Bessie J
 Kleven Peter A & Janice D [16] ▲701-725-4380
HOUSEHOLDS 4

4TH AVE NW (KENMARE)-FROM 399 5TH ST NW

• **ZIP CODE 58746 CAR-RT R099**
 409 [16] Lucy John & Nicole701-385-3418
 • **ZIP CODE 58746 CAR-RT R002**
 509 Kling Clifford [6] ▲701-385-4819
 Kling Eddy M701-385-4819
 510 Malhomme Bernard E & Helen R [12] ▲701-385-4777
 517 Pausig Richard S & Alice F [9] ▲701-385-3355
 520 Helmers Arlene J [5] ▲701-385-4865
+ 6TH ST NW INTERSECTS
 620 [16] Weigel Brian J ▲701-385-4865
+ 7TH ST NW INTERSECTS **HOUSEHOLDS 6**

4TH AVE NW (MINOT)

• **ZIP CODE 58703 CAR-RT C007**
 12 Guthrie Michael D & Trisha K [8] ▲701-838-4358
 14 1/2 No Current Listing
 100 [16] Lord Ronald H701-838-4358
 102 No Current Listing
 103 GIFTS DAKOTA STYLE gift shops701-852-6732
 HOME SWEET HOME gift shops701-852-5604
 [16] Johnson Mark L & Linda F701-852-5625
 105 HOUSE NEXT DOOR antiques-dlrs701-852-5625
 Wood Betty L [16]701-852-5625
 106 THAT'S IT antiques-dlrs701-858-1926
 110 B No Current Listing
 111 Struckness Dale E & Marion J [34] ▲701-838-7398
 114 [16] De Vries Carol L701-837-8860
 304 [16] Boyce Jeremy ▲701-839-1999
 RE/MAX real estate701-839-1999
 • **ZIP CODE 58703 CAR-RT C009**
 400 [16] Weed Betty701-838-8885
 Wood Reginald L & Lynn R [16] ▲701-838-8885
 413 - 414 No Current Listing (2 Hses)
 417 Burtman Jerald L [16] ▲701-839-5039
 419 Chernoff Harvey N & Suzanne K [6] ▲701-839-5821
 422 Engleson Roderic F & Peggy M [16] ▲701-839-5821
 423 No Current Listing
 426 Runyan Thomas A [13] ▲701-839-0024
 429 No Current Listing
 504 Wallin Julianne M [27] ▲701-839-5341
 505 Germain Violet A [34] ▲701-839-2772
 510 [16] Carr James E & Carol I701-838-3548
 DAKOTA HOUSE BED & BREAKFAST bed &
 breakfast accommodations701-838-3548
 JIM'S PAINTING & PAPERHANGING painters701-833-7388

• **ZIP CODE 58703 CAR-RT C003**

600 1 [16] Jesser Aidan S701-838-5827
 4 Ofsthun Steve D [23]701-838-5827
 608 Yester James R [24] ▲701-839-4171
 610 [16] Pecharich Adam C701-839-4169
 618 Bechtold Randai R [16] ▲701-839-4169
 Bechtold Margery M701-839-4169
 620 Steeves Judy M [6] ▲701-839-4169
 700 [16] Edwards John701-839-4169
 Edwards Rebecca701-839-4169
 702 [16] Cain Elizabeth701-839-4169
 Cain Jeremy701-839-4169
 [16] Westerfield John R Jr701-839-4169
 706 Cooper Robert J & Barbara J [34] ▲701-838-8580
 708 Aanstad Naedine M & Alf A [22]701-839-1345
 712 Nicholas Brian [2]701-839-1345
 Nicholas Nicole701-839-1345
 716 Brevig Gary D & Lois E [16] ▲701-852-9244
 720 COMPLEAT MOTHER MAGAZINE publishers-
 magazine701-852-2822
 McLaughlin Timothy J & Jody [26] ▲701-852-2822
 800 Bradwisch Edwin L & Annette [9] ▲701-839-1494
 806 Skar Travis [2] ▲701-839-1494
 Skar Cassandra701-839-1494
 809 No Current Listing
 812 Hildenbrand Patty L [9] ▲701-839-1494

4TH AVE NW Cont'd

Hildenbrand Dylan J701-838-5674
 813 [16] Coody Beverly A ▲701-838-5674
 814 [16] Fogarty Ryan L ▲701-838-5674
 Fogarty Mike P701-838-5674
 818 Linington Geneva H [24] ▲701-839-2477
 822 Scheeler Robert J & Janeen [34] ▲701-838-6370
 826 Schmalz Joseph B [17] ▲701-852-7842
 Schmalz Loren M701-852-7842
 900 Otis Dayna M [6]701-858-7576
 901 No Current Listing
 902 [16] Olson Casey R701-858-7576
 905 [16] Buue Jessica M701-858-7576
 906 Latour Kristina A [3]701-858-7576
 910 Lillis Matthew C [2] ▲701-858-7576
 Lillis Cathy J701-858-7576
 915 Joyner Richard A [7] ▲701-838-9974
 Joyner Lori701-838-9974
 916 [16] Lucas Geoffrey M ▲701-838-5269
 917 Cartier Rene A [29] ▲701-838-5269
 Cartier Steven B701-838-5269
 920 Sipma Shaun R [4] ▲701-838-5269
 Sipma Maren J701-838-5269
 1000 Higgins Verlin L [31] ▲701-839-5887
 1001 [16] Brandt Tammy701-839-5887
 1004 No Current Listing
 1005 Williams Shanda M [6]701-839-5887
 • **ZIP CODE 58703 CAR-RT C019**
 1122 KAFFEE KIOSK coffee shops701-838-2169
 1124 RIVIERA LOUNGE casinos701-839-2027
 1212 INSTITUTE OF DANCE & BALLET dancing
 instruction701-837-0239
 [16] Mettler Carla701-837-0239
 B VIDEO MAGIC video tapes & discs701-838-4544
 1224 ADVANTAGE APPLIANCE & ELECT appliances-
 hshld- major-dlrs701-838-9400
 1300 A A & A INVESTMENT real estate701-839-6600
 ALLEN REALTY CO REALTORS real estate
 BEST BROADWAY INVESTORS industrial
 developments701-838-1592
 OAK PARK SHOPPING CTR shopping centers &
 malls701-838-1592
 1400 No Current Listing
 A SERVICE SHOE SHOP shoe & boot rpr701-838-1722
 1500 BOB TIMM REALTOR real estate701-720-8513
 [16] Domsten Doug D701-839-0669
 OAK PARK THEATER theatres-movie701-852-7469
 1506 Collins Audrey O [15] ▲701-838-4714
 1507 No Current Listing
 1508 Merck Cecilia M [39] ▲701-839-3976
 1509 Grosche Donald A & Sharon M [34] ▲701-838-8058
 1516 LOAF N' JUG convenience stores701-852-5331
 • **ZIP CODE 58703 CAR-RT C034**
 1602 LOVE ON A LEASH pet washing & grooming701-837-5508
 • **ZIP CODE 58703 CAR-RT C019**
 1609 ADULT LEARNING CTR schools701-857-4488
 MINOT ADULT LITERACY VOLUNTEER reading
 improvement instructio701-852-2614
 • **ZIP CODE 58703 CAR-RT C034**
 1620 MIDWEST TIRE & MUFFLER auto rpr & serv701-839-8046
 • **ZIP CODE 58703 CAR-RT C019**
 1705 Berdahl Linda [2]701-839-0474
 CORNERSTONE ADDICTION SVC marriage &
 family counselors701-839-0474
 DARVEAUX-EATON & ASSOC psychologists701-839-0474
 Eaton Timothy T [2]701-839-0474
 • **ZIP CODE 58703 CAR-RT C034**
 1720 BIBLE FELLOWSHIP CHURCH churches701-838-0916
 MENNONITE BRETHREN CHURCH churches701-838-0916
 1800 ATO SVC video equip- serv & rpr701-837-9773
 FATHER TIME'S WATCH REPAIR watches-rpr701-838-0960
 • **ZIP CODE 58703 CAR-RT C019**
 1801 RASMUSON APPRAISAL CONSULTANT appraisers701-852-4861
 1809 Moseanko Mary F [3] ▲701-837-9234
 • **ZIP CODE 58703 CAR-RT C034**
 1810 KADRMAS LEE & JACKSON engineers- consulting701-839-3383
 • **ZIP CODE 58703 CAR-RT C019**
 1813 [16] Anderson William C ▲701-839-3383
 • **ZIP CODE 58703 CAR-RT C034**
 1820 ALICE'S BEAUTY SALON beauty salons701-838-3068
 RED'S CUSTOM LEATHER leather goods-rpr701-839-6593
 RED'S STYLE SHOP barbers701-839-6593
 Sedevie Darrell H [16] ▲701-839-6593
 1900 4TH AVENUE DINER restaurants701-852-8221
 • **ZIP CODE 58703 CAR-RT C019**
 1909 Westmeyer Todd R [5] ▲701-837-5712
 1913 Sabo Wayne R & Alvera F [16] ▲701-839-3945
 • **ZIP CODE 58703 CAR-RT C034**

4TH AVE NW Cont'd

1924 [16] Beechie Rebecca701-852-6067
 DAIRY QUEEN ice cream parlors701-852-6067
+ 20TH ST NW CONTINUES
 2010 BODY WRAP STUDIO & MORE body wrap salons701-852-9009
 DIGITAL ALBUMS video production & taping serv701-833-5467
 KONDOS INSURANCE insurance701-852-1673
 NATIONWIDE INSURANCE insurance701-852-8002
 NATIONWIDE PROVIDENT financial planning
 consultants701-852-8002
 [16] Thorson Mark ▲701-852-8850
 101 ORVIK MICHAEL CPA accountants701-852-8850
 • **ZIP CODE 58703 CAR-RT C019**
 2021 AMERICAN RED CROSS social serv & welfare org701-852-2828
 • **ZIP CODE 58703 CAR-RT C034**
 2022 Moore Billi B [8] ▲701-838-3910
+ 21ST ST NW INTERSECTS
+ 21ST ST NW INTERSECTS
 2100 BUETTNER RENTALS washing mach dryers/ironers701-839-1293
 GRANITE SPRING WATER & ICE CO ice-mfrs701-838-3910
 MAGIC CITY VENDING vending mach701-839-1293
 2116 MARRIAGE CLINIC marriage & family counselors701-838-2442
 NORTH PRAIRIE PSYCHOLOGICAL psychologists701-838-2442
 2120 Kelly Elizabeth A [16] ▲701-852-6196
+ 22ND ST NW INTERSECTS
 2200 Price Dale L & Sharon D [20] ▲701-839-6610
 PRICE UPHOLSTERY auto seatcovers tops/
 upholster701-838-3192
 • **ZIP CODE 58703 CAR-RT C019**
 2209 ST MARK'S LUTHERAN CHURCH churches701-839-4663
 • **ZIP CODE 58703 CAR-RT C034**
 2212 Mueller Kirby G [23] ▲701-852-3641
+ 23RD ST NW INTERSECTS
 • **ZIP CODE 58703 CAR-RT C019**
 2309 Peterson Dennis E & Mary A [37] ▲701-838-5536
+ 24TH ST NW INTERSECTS
 2405 No Current Listing
 2409 Mackey Leroy B & Helen L [19] ▲701-838-6065
+ 25TH ST NW INTERSECTS
 2505 Seney Arnold R & Marilyn J [9] ▲701-839-1483
 2509 Rollings Steven M [5] ▲701-839-1483
+ 26TH ST NW INTERSECTS
+ 26TH ST NW CONTINUES
 • **ZIP CODE 58703 CAR-RT R006**
 2705 DAVISON LARSON ARCHITECTS architects701-852-4178
+ 28TH ST NW INTERSECTS
 3110 [16] Hand David E ▲701-838-6432
 3120 Holter Glen A [32] ▲701-838-6432
 Holter Phyllis E701-838-6432
 3200 MINOT PAVING CO INC road building contractors701-852-0558
 3205 Alm David O [22] ▲701-838-3089
 ORHEIM-ALM CONSTRUCTION genl contractors701-839-1413
 3305 GRAVEL PRODUCTS INC sand & gravel701-838-8888
 MINOT BUILDERS SUPPLY trucking701-838-5624
 NIESS ENTERPRISES tool & die makers701-857-6366
 PUMPCO ENERGY SVC inc oil field serv701-838-1214
 3504 CONCRETE MOBILE LLC concrete- ready mixed701-852-3019
+ COUNTY ROAD 15 W INTERSECTS
 4101 Anderson Dennis W & Donna M [14] ▲701-852-5215
 4104 HISTORICAL PAINTING & HARDWOOD painters701-852-3872
BUSINESSES 61 **HOUSEHOLDS 89**

4TH AVE SE (KENMARE)-FROM 399 E DIVISION ST SOUTH

+ 4TH AVE NE INTERSECTS
 • **ZIP CODE 58746 CAR-RT R099**
 203 NORRIE'S INC heating contractors701-385-4748
BUSINESSES 1

4TH AVE SE (MINOT)

• **ZIP CODE 58701 CAR-RT C011**
 2721 NORTH CENTRAL FEED & SEED INC feed-dlrs701-838-1728
 3400 BEETER TRUCKING trucking701-839-1523
BUSINESSES 2

4TH AVE SW (MINOT)

• **ZIP CODE 58701 CAR-RT C023**
 1404 Marshall Craig L & Debora L [15] ▲701-838-1015
 1405 Hankla Winifred A & Walfrid B [38] ▲701-852-4500
 1501 Messmore Dagny V [21] ▲701-852-4500

3RD ST SE - 4TH AVE NW**3RD ST SE Cont'd**

B CAR CARE EXPRESS car washing & polishing701-838-8302
 B DAVES DIESEL SVC engines-diesel- fuel injection701-838-8302

+ RAILROAD CROSSES**+ RAILROAD CONTINUES**

101 Laplante Jane M [1]701-838-4662
 O K AUTOMOTIVE WAREHOUSE DIST auto parts & suppl- retail-nw701-839-2886
 Upton Gordon S [20]701-838-4662
 105 Berard Larry L [20]701-839-4904
 110 Hager George [20]701-838-1177

+ RAILROAD CROSSES**+ RAILROAD CONTINUES****+ 1ST AVE SE INTERSECTS****+ FRONT ST INTERSECTS**

201 Lukenbach Wayne & Roberta R [20]701-839-5468
 205 Scarborough Cheryl A [13]701-839-8846
 217 1/2 No Current Listing

+ 3RD AVE SE INTERSECTS**+ 3RD AVE SE CONTINUES**

315 DISTRICT COURT-CHILD SUPPORT county government701-857-6464
 DISTRICT COURT OF ND county government- courts701-857-7604
 DISTRICT COURT SCHEDULING county government- courts701-857-7607

HOME ECONOMICS government offices-

county701-857-6450
 HONORABLE EVERETT NELS OLSON government offices-county701-857-7604

HONORABLE GARY HOLM government offices-county

.....701-857-7605
 HONORABLE GLENN DILL III government offices-county701-857-7602

MINOT EMERGENCY MANAGEMENT county government

.....701-857-6534
 SHERIFF-CIVIL PROCESS sheriff701-857-6517

SHERIFF-JUDGEMENTS sheriff

.....701-857-6516
 SHERIFF-RECORDS & WARRANTS sheriff701-857-6512

STATE ATTORNEY state government- legal counsel

.....701-857-6480
 WALLY KOWITZ government offices-county701-857-7603

WARD COUNTY 4-H PROGRAM government offices-county

.....701-857-6450
 WARD COUNTY AUDITOR county government701-857-6420

WARD COUNTY BUILDING SVC DEPT government offices-county

.....701-857-6499
 WARD COUNTY COMMISSIONERS government offices-county701-857-6420

WARD COUNTY DIRECTOR OF TAX county government

.....701-857-6430
 WARD COUNTY EXTENSION SVC government offices-county701-857-6450

WARD COUNTY JAIL county govt

.....701-857-6530
 WARD COUNTY JUVENILE COURT county government- courts701-857-7608

WARD COUNTY PERSONNEL government offices-county

.....701-857-6499
 WARD COUNTY PROBATE government offices-county701-857-6476

WARD COUNTY RECORDER government offices-county

.....701-857-6410
 WARD COUNTY REGISTER OF DEEDS government offices-county701-857-6410

WARD COUNTY SHERIFF sheriff

.....701-857-6500
 WARD COUNTY SMALL CLAIMS COURT county government- courts701-857-6471

WARD COUNTY SUPERINTENDENT schools

.....701-857-6495
 WARD COUNTY TRAFFIC COURT county government- courts701-857-6473

WARD COUNTY TREASURER county government

.....701-857-6426
 WARD COUNTY VETERANS SVC government offices-county701-857-6492

+ BURDICK EXPY E INTERSECTS**+ BURDICK EXPY E CONTINUES****+ ZIP CODE 58701 CAR-RT C008**

407 Anderson Mary701-857-2480
 GRAMS-REMINOT L mental health serv701-857-2401

MENTAL HEALTH UNIT-ST JOSEPH'S

mental health serv701-857-2360
 NETO MANUEL MD physicians & surgeons701-857-2000

RETIRED & SENIOR VOLUNTEER senior citizens serv

.....701-852-3799
 TRINITY ADDICTION TREATMENT alcoholism info/treatment ctrs701-857-2480

TRINITY HOSPITAL-SAINT JOSEPH'S hospitals

.....701-857-2044
 UNI MED FCU credit unions701-857-2000

UNIMED MEDICAL CTR physicians & surgeons

.....701-857-2000
 + 5TH AVE SE INTERSECTS

+ 5TH AVE SE CONTINUES

510 Gasiewski Patryk701-852-0668
 511 No Current Listing

512 Hoffer Jamie J [3]

.....701-839-5455
 516 Lang June H [20]701-837-1629

525 Campbell Peter J & Debbie J [3]

.....701-837-1629
 529 No Current Listing

3RD ST SE Cont'd

600 Ross Stanley K & Katherine R [7]701-838-8572
 601 Mays David A [2]701-852-5070
 605 No Current Listing

608 Johnson Allison S [12]701-839-4983
 611 Soronio Denorio R701-839-9380

617 Fettig Gary & Diane T [12]701-838-8027
 625 No Current Listing

629 Long Christopher G & Deborah L [4]701-838-5128

+ 7TH AVE SE INTERSECTS**+ 7TH AVE SE CONTINUES**

700 Mantz Todd J & Marchelle J [8]701-839-0001

707 Telin Todd J & Rebecca J [11]701-852-9300
 710 Barnes Dennis E [20]701-839-6397

Barnes Gladys I701-839-6397
 712 Gage Charles A & Gale M [12]701-838-8741

+ 8TH AVE SE INTERSECTS**+ 8TH AVE SE CONTINUES**

809 Smith Ronald K & Mildred J [12]701-838-9217

810 Roerick Casper A & Sharon A [6]701-852-1690

812 Hanson Charles J & Dawn M [4]701-839-1336

814 McCabe Nicole L701-839-0899
 815 Clark Jerome L & Cynthia E [12]701-838-3265

818 Maupin Virginia L [20]701-838-3666
 Maupin Michelle701-838-3666

819 Colton Edith M [20]701-838-2264
 823 Samuelson Reuben W [20]701-839-7725

825 McLeod Louis E Jr & Ernestine E [13]701-852-4817

826 Fraley James A & Barbara K [20]701-838-6843

+ 9TH AVE SE INTERSECTS**+ 9TH AVE SE CONTINUES****+ ZIP CODE 58701 CAR-RT C004**

900 Lyon John M & Carolyn R [20]701-839-8702

901 No Current Listing
 905 Atkinson Lorlie M [2]701-838-9511

906 Hornaday Lee A701-852-7770
 908 Williams Doris M [20]701-838-1086

909 Borgen Byron J [20]701-839-2407
 912 Gruzensky Matt [20]701-839-3328

913 No Current Listing
 916 Duff Leo & Leona [14]701-852-4259

919 Ganje Rodney J [7]701-852-5076
 920 Haberman Donald S & Madonna S [16]701-838-8619

1 - 2 No Current Listing (2 Apts)
 921 Ringdahl Marian E [20]701-839-1069

925 Roberts Elizabeth A & Dennis N [11]701-839-1676

926 Saltman Mary [20]701-839-5925
 + 10TH AVE SE INTERSECTS

+ 10TH AVE SE CONTINUES

1000 Eckdahl Michael [3]701-852-5866

1006 Tiller George R & Marlene R [19]701-839-5941

1008 - 1008 No Current Listing (3 Hses)
 1012 Senger Joseph M & Judith E [6]701-852-6681

1016 Hulberg Margaret L [5]701-837-9302
 Hulberg Mathew J701-837-9302

1020 Sande Jacky A & Jacqueline A [13]701-852-8710

+ 11TH AVE SE INTERSECTS**+ 11TH AVE SE CONTINUES**

1106 Sorenson Sarah A [2]701-852-8710

1108 Schalesky Marty D & Carol J [19]701-852-8710

1 - 2 No Current Listing (2 Apts)
 + 12TH AVE SE ENDS

+ 12TH AVE SE CONTINUES**+ 13TH AVE SE INTERSECTS****+ 13TH AVE SE CONTINUES****+ SAINT PETER AVE ENDS****+ SAINT PETER AVE CONTINUES****+ 14TH AVE SE INTERSECTS****+ ZIP CODE 58701 CAR-RT C029**

1704 Laqua Richard W & Cecilia M [20]701-838-2894

1705 Ringdahl Edwin J & Tillie [10]701-839-5704

1710 Haberlack Paul R & Elaine M [20]701-838-7958

1711 Price Terry C & Sandy R [17]701-838-4854

1715 Nissen Ron & Amy701-852-8880
 1716 Ressler Wilbert F & Barbara E [20]701-839-4535

1721 Klimpel Vernon L & Ione L [20]701-839-8244

1722 Nitsch Paul F & Karen L [20]701-838-7351

1727 Eskelson Raymond & Evelyn I [3]701-837-9665

1728 No Current Listing
 1735 Mehl Connie I [14]701-839-8787

1 - 4 No Current Listing (4 Apts)
 + 18TH AVE SE INTERSECTS

BUSINESSES 50**HOUSEHOLDS 81****3RD ST SE (SURREY)-FROM 299 PLEASANT AVE S EAST****+ 1ST AVE SE BEGINS****+ 2ND AVE SE BEGINS****3RD ST SW (MINOT)-FROM 299 AVENUE A SOUTH****+ 1ST AVE SW CONTINUES****+ ZIP CODE 58701 CAR-RT C013**

114 Volk Richard C [20]701-839-3403
 Volk Laura L701-839-3403

130 Volk James G & Lillian [7]701-852-8155

12**3RD ST SW Cont'd**

132 Schmidt Charles J & Dee A [14]701-852-3516
 140 Sasse Jarvis J [2]701-837-9001

+ 2ND AVE SW INTERSECTS**+ FIRELANE RD ENDS**

200 FIRST BAPTIST CHURCH churches701-852-4533

+ 2ND AVE SW INTERSECTS**+ FIRELANE RD CONTINUES**

239 Melin Alyssa R701-852-6653

241 Michels Chris [2]701-837-6347
 + WESTERN AVE INTERSECTS

+ WESTERN AVE CONTINUES**+ 3RD AVE SW INTERSECTS****+ 3RD AVE SW CONTINUES****+ ZIP CODE 58701 CAR-RT C035**

412 Landry John W [20]701-839-2057

+ BURDICK EXPY W INTERSECTS**+ SUMMIT DR INTERSECTS****+ 8TH AVE SW CONTINUES****+ ZIP CODE 58701 CAR-RT C013**

705 Wilson Michael R [6]701-852-0750

+ ZIP CODE 58701 CAR-RT C035

800 Anderson Myrtle E & Edward A [20]701-839-7053

801 1/2 Schilken Christopher P701-839-9247

803 Round Darline701-852-2814
 Round Dean701-852-2814

804 Walter Dorothy A [10]701-839-3886

805 - 809 No Current Listing (2 Hses)
 + AVENUE A INTERSECTS

812 KEY CONSTRUCTION SVC genl contractors

.....701-838-3454
 Rubbelke Nancy R & Robert J [15]701-838-3454

820 Hulm Ricky L [5]701-852-1086

825 Hanson Craig L [3]701-838-5880
 Hanson Melissa S701-839-1514

830 A Ganje Daniel R [12]701-838-2334

B May Priscilla J [13]701-838-4922

C Houge Clyde H [10]701-838-4922

C Houge Janell K701-839-3886
 D Granheim Carol L [11]701-852-2479

831 Nettleton Gene E & Lori [5]701-852-2479

+ 9TH AVE SW INTERSECTS

901 No Current Listing
 902 Muus Steven P [17]701-852-4304

906 Egan Jacqueline L701-838-7634
 912 Lucy Michael A & Nancy A [14]701-838-7634

+ 11TH AVE SW CONTINUES**+ 13TH AVE SW CONTINUES****+ ZIP CODE 58701 CAR-RT C017**

1305 Weitkoll Christoph B & Mandy M701-839-3007

1316 Fuller Daniel R701-839-3007
 1317 Brabant Roger L & Juel J [20]701-839-6577

1318 No Current Listing
 1320 Rodman David F Jr & Lisa M [11]701-852-3619

1321 Burckhard Mark P & Tara J [11]701-838-4543

1324 O'Brien William J [20]701-838-3627

1327 Goble Charles F Jr & Amy L701-839-5058

1330 Henderson Stanton L & Barbara W [20]701-839-6383

1334 Volk Kenneth J & Deborah J [11]701-839-2919

1335 Heinze Robert J [20]701-839-2919
 Heinze Douglas A701-839-2919

+ 14TH AVE SW INTERSECTS**BUSINESSES 2****HOUSEHOLDS 38****3RD ST W (CARPIO)-FROM 211 LINCOLN AVENUE WEST NORTH****+ GARFIELD AVENUE WEST ENDS****+ HIGHWAY 52 N INTERSECTS****4TH AVE (RYDER)-FROM 27855 254TH ST SW EAST****+ N MAIN ST INTERSECTS****+ FREDERN ST INTERSECTS****4TH AVE E (MAKOTI)****+ ZIP CODE 58756 CAR-RT H002**

81 Johnson Darrell G [20]701-726-5638

HOUSEHOLDS 1**4TH AVE NE (BERTHOLD)****+ 4TH AVE NW INTERSECTS****+ MAIN ST N INTERSECTS****+ TYLER ST NE CONTINUES****+ TYLER-2ND ST E ENDS****+ AGNES-3RD ST E CONTINUES****+ TYLER ST NE INTERSECTS****+ TYLER-2ND ST E ENDS****+ AGNES-3RD ST E ENDS****+ 282ND ST NW CONTINUES****4TH AVE NE (KENMARE)-FROM 401 E DIVISION ST NORTH****+ 4TH AVE SE INTERSECTS****+ ZIP CODE 58746 CAR-RT R002**

MORGAN PRINTING

307 3rd Ave. SE • MINOT

4TH AVE NW Cont'd
+ 184TH ST NW CONTINUES
 • ZIP CODE 58733 CAR-RT R001
 16910 Schaefer Jeffery M & Julie L [1]▲
701-725-4600
+ 198TH ST NW BEGINS
+ 198TH ST NW CONTINUES
+ 226TH ST NW INTERSECTS
+ 240TH ST NW ENDS
 21515 Schaefer Richard R & Sharon A [8]▲
701-725-4321
 23315 Kleven Peter A & Janice D [7]▲
701-725-4380
HOUSEHOLDS 3

4TH AVE NW (KENMARE)-FROM 425 5TH AVE NW NORTH
+ 5TH ST NW INTERSECTS
 • ZIP CODE 58746 CAR-RT R002
 517 Pausig Richard S & Alice F [3]▲
701-385-3355
 520 No Current Listing
+ 6TH ST NW INTERSECTS
 620 No Current Listing
+ 7TH ST NW INTERSECTS
+ 8TH ST NW INTERSECTS
+ 9TH ST NW INTERSECTS

HOUSEHOLDS 3

4TH AVE NW (MINOT)-FROM 6425 HIGHWAY 2 AND 52 W WEST
+ 4TH AVE NE CONTINUES
+ MAIN ST N INTERSECTS
 • ZIP CODE 58703 CAR-RT C007
 12 Guthrie Michael D & Trisha K [2]
 14 1/2 No Current Listing
+ 1ST ST NW INTERSECTS
+ 1ST ST NW CONTINUES
 100 1/2 No Current Listing
 102 H Hutchenson Summer
 103 HOME SWEET HOME gift shops
701-852-5604
 105 HOUSE NEXT DOOR antiques-dlrs
701-852-5625
 106 QUILTER'S COTTAGE quilting materials & suppl
701-838-6376
 110 3 Mesa V701-852-9594
 A Rasmussen Lisa M [4]701-837-9214
 B No Current Listing
 111 Struckness Dale E & Marion J [20]▲
701-838-7398
 114 Fox Thressa G [4]701-852-2633
 Yltalo Joanne M [7]

115 Wickman Joseph P [14]▲701-838-4784
+ WALTERS ST INTERSECTS
+ WALTERS ST CONTINUES
+ 3RD ST NW ENDS
+ N BROADWAY INTERSECTS
+ 4TH ST NW INTERSECTS
+ 4TH ST NW CONTINUES
 • ZIP CODE 58703 CAR-RT C009
 400 Wood Reginald L & Betty L [12]▲
701-838-8885
 413 No Current Listing
 414 Charley Hattie C & Zachary J [8]701-838-0602
 417 Burtman Jerald L [13]701-839-5039
 419 No Current Listing
 422 Engleson Roderic F & Peggy M [12]▲
701-839-5821
 423 Huizenga Nick [20]▲701-838-7953
 Huizenga Thelma L701-838-7953
 426 Runyan Thomas A & Donna A [8]▲
701-839-0024
 429 Panasuk Orrin L [20]▲
+ 5TH ST NW INTERSECTS
+ 5TH ST NW CONTINUES
 504 Wallin Julianne M [20]▲701-839-5341
 505 Germain David A & Violet A [20]▲
701-839-2772
 510 DAKOTAH ROSE BED & BREAKFAST bed & breakfast accommodations701-838-3548
 Pederson Richard C III & Marchelle D [12]▲
701-838-3548

+ 6TH ST NW INTERSECTS
+ 6TH ST NW CONTINUES
 • ZIP CODE 58703 CAR-RT C003
 600 1 - 2 No Current Listing (2 Apts)
 600 3 Donner Christophe G701-838-4937
 3 Gregor Kay M [5]701-838-5827
 4 Ofstun Steve D [18]701-838-5827
 608 Yester James R [19]▲701-839-4171
 610 No Current Listing
 618 Bechtold Margery M [13]▲701-839-4169
 Bechtold Randal R701-839-4169
 620 Steeves Judy M
+ 7TH ST NW INTERSECTS
+ 7TH ST NW CONTINUES
 702 Pfeiffer Sharon M [3]701-839-4304
 706 Cooper Barbara J & Robert J [20]▲
701-838-8580
 708 Aanstad Alf A & Naedine M [17]▲
701-839-1345
 712 Murphy Janet E [12]▲701-839-1779
 716 Brevig Gary D & Lois E [12]▲701-852-9244
 720 COMPLEAT MOTHER MAGAZINE publishers-magazine701-852-2822

4TH AVE NW Cont'd
 McLaughlin Timothy J & Joanna K [20]▲
701-852-2822
+ 8TH ST NW INTERSECTS
+ 8TH ST NW CONTINUES
 800 Bradwisch Edwin L & Annette [4]701-839-1494
 806 - 809 No Current Listing (2 Hses)
 812 Stave Judy D [10]▲
 Stave Annika M
 813 - 814 No Current Listing (2 Hses)
 818 Linington Geneva H [18]▲701-839-2477
 822 Scheeler Robert J & Jansen [20]▲
701-838-6370
 826 Schmalz Joseph B [12]▲701-838-4836
 Schmalz Loren M701-838-4836
+ 9TH ST NW INTERSECTS
+ 9TH ST NW CONTINUES
 900 Strecker Neil R & Dayna [11]701-838-3397
 901 No Current Listing
 902 Loyczczyk Michael S [2]701-839-6685
 905 Bergan Jamie D & Amy [3]701-837-0618
 906 Middleton Miles T [2]701-837-7914
 910 Park Jonathan D & Jennifer L [7]▲
701-837-9296
 915 Joyner Richard A & Lori701-838-9974
 916 Fewster David A & Angela A [3]701-838-9974
 917 Cartier Rene A & Barbara J [20]▲
701-838-5269
 920 Buller Debra J & Jeffery L
 1000 Higgins Verlin L [20]▲701-839-5887
 Higgins Beverly G701-839-5887
 1001 Darling Donald A & Patricia A [20]▲
701-839-3502
 1004 Horn Denise L [13]▲
 Kennedy Dustin F [2]
 1005 Olson Shanda M [2]701-858-9867
 Olson Jesse L701-858-9867
+ 11TH ST NW INTERSECTS
 • ZIP CODE 58703 CAR-RT C019
 1122 KAFFE KIOSK coffee shops701-838-2169
 1124 RIVIERA LOUNGE cocktail lounges
701-839-2027
 1212 BODY TRENDS body piercing701-839-1555
 DETANGLES HAIR STUDIO beauty salons701-852-6003
 INSTITUTE OF DANCE & BALLET dancing instruction701-837-0239
 VIDEO MAGIC video tapes & discs701-838-4544
 1224 BROWN & SAEGER office suppl701-858-0808
 1300 A & A INVESTMENT real estate701-839-6600
 ALLEN REALTY CO REALTORS real estate
 BEST BROADWAY INVESTORS industrial developments701-838-1592
 OAK PARK SHOPPING CTR shopping centers & malls
 1302 MICHAEL'S restaurants701-837-6133
 1400 CROWD PLEASERS DJ & KARAOKE music & live entertainment701-839-3006
 D C ENTERTAINMENT entertainment bureaus701-839-3006
 PROTRONICS musical instruments-dlrs701-839-3006
 SERVICE SHOE SHOP shoe & boot rpr701-838-1722
 B DISCOUNT SEW-VAC vacuum cleaners-household-dlrs701-852-8506
 F HILLBILLY DAWG HOUSE pet suppl & foods-retail701-838-8527
 1400 F Jans Dennis W [4]
 1500 OAK PARK THEATER theatres-movie701-852-7469
 D SUPERIOR AUTO REPAIR auto rpr & serv701-839-6350
 1506 Collins Audrey O [10]▲701-838-4714
 1507 Lund Nathan A [3]
 Nicholson Stephanie D [2]701-837-0406
 1508 Merck Cecilia M [20]▲701-839-3976
 1509 Grosche Donald A & Sharon M [20]▲
701-838-8058
 1516 MINI MART convenience stores
701-852-5331

+ 16TH ST NW INTERSECTS
+ 16TH ST NW CONTINUES
 1609 ADULT LEARNING CTR schools701-857-4488
 Displaced Homemaker C [3]701-857-4488
 MINOT ADULT LITERACY VOLUNTEER reading improvement instructio701-852-2614
 • ZIP CODE 58703 CAR-RT C034
 1620 MIDWEST TIRE & MUFFLER auto rpr & serv701-839-8046
+ 17TH ST NW INTERSECTS
+ 17TH ST NW CONTINUES
 • ZIP CODE 58703 CAR-RT C019
 1705 Carlson Daniel [4]701-839-0474
 DARVEAUX EATON & ASSOC marriage & family counselors701-839-0474
 Mehning Deon [2]701-839-0474
 Rohrer Mark A [4]701-839-0474
 1717 HISHINE CAR WASH car washing & polishing701-839-7991
 • ZIP CODE 58703 CAR-RT C034

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4TH AVE NW Cont'd
 1720 BIBLE FELLOWSHIP CHURCH churches701-838-0916
+ 18TH ST NW INTERSECTS
+ 18TH ST NW CONTINUES
 1800 FATHER TIME'S WATCH REPAIR watches-rpr701-838-0960
 PRAIRIE DAKOTA INSURANCE INC insurance701-838-3798
 C BACKYARD BREWING SUPPLIES beer-homebrewing equip/supl701-858-9950
 • ZIP CODE 58703 CAR-RT C019
 1801 RASMUSON APPRAISAL CONSULTANT appraisers701-852-4861
 Rasmussen Darrell M701-852-4861
 1809 Marcy Vicki M [7]▲701-838-9397
 Marcy Yrm701-838-9397
 • ZIP CODE 58703 CAR-RT C034
 1810 KADRMAS LEE & JACKSON engineers-consulting701-839-3383
 • ZIP CODE 58703 CAR-RT C019
 1813 No Current Listing
 • ZIP CODE 58703 CAR-RT C034
 1820 ALICE'S BEAUTY SALON beauty salons701-838-3068
 RED'S CUSTOM LEATHER leather goods-rpr701-839-6593
 RED'S STYLE SHOP barbers701-839-6593
 Sedavie Darrell H [11]▲701-839-6593
+ 19TH ST NW INTERSECTS
+ 19TH ST NW CONTINUES
+ 19TH ST NW INTERSECTS
+ 19TH ST NW CONTINUES
 1900 GLADYS' PLACE restaurants701-852-8221
 • ZIP CODE 58703 CAR-RT C019
 1909 Devenere Joan [13]▲701-839-6764
 Devenere Betty J701-839-6764
 1913 Sabo Wayne R & Alvera F [12]▲
701-839-3945
 • ZIP CODE 58703 CAR-RT C034
 1924 DAIRY QUEEN ice cream parlors701-852-6067

+ 20TH ST NW INTERSECTS
+ 20TH ST NW CONTINUES
+ 20TH ST NW INTERSECTS
+ 20TH ST NW CONTINUES
 2010 AMON INSURANCE insurance701-852-3156
 BERNI'S BODY WRAP STUDIO body wrap salons701-852-9009
 KONDO'S INSURANCE insurance701-852-1673
 PROVIDENT MUTUAL INSURANCE insurance701-852-8002
 101 ORVICK MICHAEL CPA accountants701-852-8850
 103 TANDE PHOTOGRAPHY photographers-commercial701-852-8699
 • ZIP CODE 58703 CAR-RT C019
 2021 AMERICAN RED CROSS social serv & welfare org701-852-2828
 • ZIP CODE 58703 CAR-RT C034
 2022 No Current Listing
+ 21ST ST NW INTERSECTS
+ 21ST ST NW CONTINUES
+ 21ST ST NW INTERSECTS
+ 21ST ST NW CONTINUES
 2100 GRANITE SPRING WATER & ICE CO ice-mfrs701-838-3910
 2116 No Current Listing
 100 MARRIAGE CLINIC psychologists701-838-2442
 2120 BALLANTYNE OIL oil/gas exploration/developmen701-852-9235
+ 22ND ST NW INTERSECTS
+ 22ND ST NW CONTINUES
 2200 JACKETS BY PRICE coats-mfrs701-838-3192
 PRICE UPHOLSTERY upholsterers701-838-3192
 • ZIP CODE 58703 CAR-RT C019
 2209 Roth Carlyle [4]▲701-839-4663
 ST MARK'S LUTHERAN CHURCH churches701-839-4663
 St Carlyle Roth ▲701-839-4663
 • ZIP CODE 58703 CAR-RT C034
 2212 Mueller Kirby G & Cynthia K [18]▲
701-852-3641
 2220 Price Dale R [14]▲701-839-6610

+ 23RD ST NW INTERSECTS
+ 23RD ST NW CONTINUES
 • ZIP CODE 58703 CAR-RT C019
 2309 Peterson Dennis E & Douglas A [20]▲
701-838-5536
+ 24TH ST NW INTERSECTS
 2405 Berg Douglas E & Karen L [18]▲
701-852-8501
 2409 Mackey Leroy B & Helen L [12]▲
701-838-6065
+ 25TH ST NW INTERSECTS
 2505 Vix Lando D [8]▲701-852-6760
 Vix June M701-852-6760
 2509 Meier Herman J & Audrey E [20]▲
701-852-1654
+ 26TH ST NW INTERSECTS

4TH AVE NW Cont'd
+ 27TH ST NW INTERSECTS
 • ZIP CODE 58703 CAR-RT R006
 2705 TORNO NESTER DAVISON architects701-852-4178
+ 28TH ST NW INTERSECTS
+ 30TH ST NW INTERSECTS
+ 30TH ST NW CONTINUES
 3110 ABC MARKET-USED FURNITURE furniture-used701-839-6874
 Burgard Leo W & Alice B [20]▲701-839-6874
 3120 Holter Glen A [20]▲701-838-6432
 Holter Phyllis E701-838-6432
 3200 MINOT PAVING CO INC road building contractors701-852-0558
 3205 Alm David O [17]▲701-838-3089
 ORHEIM-ALM CONSTRUCTION genl contractors701-839-1413
 3305 GRAVEL PRODUCTS INC sand & gravel701-838-8888
 MINOT BUILDERS SUPPLY trucking701-838-5624
 NIESS ENTERPRISES tool & die makers701-857-6366

+ COUNTY ROAD 15 W BEGINS
 3400 BEETER TRUCKING trucking701-839-1523
+ 46TH ST NW INTERSECTS
+ 54TH AVE NW ENDS
+ 54TH ST NW BEGINS
+ 62ND ST NW INTERSECTS
+ RAILROAD CROSSES
+ RAILROAD CROSSES
+ HIGHWAY 2 AND 52 W INTERSECTS
 4101 Anderson Dennis W & Donna M [8]▲
701-852-5215
 4104 HISTORICAL PAINTING & HARDWOOD painters701-852-3872
+ 72ND ST NW BEGINS
+ 72ND ST NW CONTINUES
BUSINESSES 64 **HOUSEHOLDS 93**

4TH AVE SE (KENMARE)-FROM 401 SOO ST SOUTH
+ 4TH AVE NE CONTINUES
+ E DIVISION ST INTERSECTS
+ LAKEVIEW ST INTERSECTS
+ LAKEVIEW ST CONTINUES
+ SOO ST INTERSECTS

4TH AVE SE (MINOT)-FROM 401 31ST ST SE EAST
 • ZIP CODE 58701 CAR-RT C011
 2721 N CENTRAL FEED & SEED INC feed-dlrs701-838-1728
BUSINESSES 1

4TH AVE SW (MINOT)-FROM 399 15TH ST SW WEST
 • ZIP CODE 58701 CAR-RT C023
 1404 Marshall Craig L & Debora L [10]▲
701-838-1015
 1405 Hankla Walfrid B & Winifred A [20]▲
701-852-4500
 1410 INDEPENDENT ORDER OF MINOT ODD fraternal org701-839-7437
+ 15TH ST SW INTERSECTS
 1501 Messmore Frank A Jr & Dagny V [7]▲
 1505 Devilbiss Thomas E & Janice J [3]701-852-6788
 1509 Burke Donald M & Jean M [13]▲
701-852-8467

1510 Schlack Judith E [13]▲701-852-2313
 Schlack Suzanne K701-852-2313
 2100 Lokken Gerald W & Janice M [2]701-839-6326
 2101 Wald Terry J Sr & Doreen L [3]701-839-5983
+ 24TH ST SW BEGINS
BUSINESSES 1 **HOUSEHOLDS 8**

4TH AVE SW (SURREY)-FROM 511 5TH ST SW SOUTH
 • ZIP CODE 58785 CAR-RT R001
 502 Martin John R & Jane R [3]▲701-838-0954
 504 Greene Robert O & Christine C [7]▲
701-837-1298
 506 Wald Corey J & Christy [4]▲701-852-8776
 508 Felber William S & Darla R [4]▲701-852-2233
+ 6TH ST SW ENDS
 510 Badke Charles D & Terrie L [11]▲
701-839-7914
 BADKE CONSTRUCTION CO masonry contractors701-839-7914
BUSINESSES 1 **HOUSEHOLDS 5**

4TH ST N (SURREY)
+ 4TH ST NE ENDS
+ 4TH ST NE INTERSECTS

4TH ST NE (KENMARE)-FROM 401 N CENTRAL AVE EAST
+ 4TH ST NW INTERSECTS
+ 1ST AVE NE INTERSECTS
+ 2ND AVE NE INTERSECTS
+ 3RD AVE NE INTERSECTS
+ 4TH AVE NE INTERSECTS

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NEW NEIGHBOR

3D ST SE	cont'd
921 Not Verified	
925 Roberts Dennis N & Elizabeth []	839-1676
926 Not Verified	
+ 10TH AV SE INTERSECTS	
1000 Marmon Michael M & Donna	825-3993
Marmon Holly M	825-3993
Marmon Mickael J Jr	825-3993
Marmon Joseph A	825-3993
1006 MARLENE'S MONOGRAMING	839-5941
Tiller George R & Marlene []	839-5941
1008 Not Verified	
1008 Upstairs Not Verified	
1012 Vacant	
1016 Pruitt Robert []	839-6370
1020 Sande Jacky A []	838-7940
Sande Alyssa	838-7940
+ 11TH AV S E INTERSECTS	
1106 Brewer Donald L []	838-9206
1108 Schalesky Marty D & Carol []	852-8710
+ 12TH AV S E INTERSECTS	
+ 13TH AV S E INTERSECTS	
+ SE ST PETER AV INTERSECTS	
+ 14TH AV S E INTERSECTS	
+ 17TH AV INTERSECTS	
1704 Laqua Richard W & Cecelia []	838-6727
1705 Ringdahl Edwin J & Tillie []	839-5704
1710 Haberlack Paul R & Elaine []	838-7958
1711 Price Terry C & Sandra []	838-4854
1715 Savelkoul Bruce A & Anna Marie []	852-4479
1716 Ressler Wilbert F & Barbara []	839-4535
1721 Klimpel Vernon L & Ione []	839-8244
1722 Nitsch Paul F []	838-7351
1727 Kleingartner Herbert A & Marie []	852-2281
1728 Simmons Rev David & Florence []	838-3752
1735 SEVENTEEN THIRTY FIVE APARTMENTS	852-1765
1 Sharma Eva []	839-1575
2 Mehl Connie []	839-8787
3 Vacant	
4 Estlin L	838-7496
+ 18TH AVE SE INTERSECTS	
BUSINESSES 39	HOUSEHOLDS 56
3RD ST SW -FROM CENTRAL AV SOUTH, 3 WEST OF MAIN ST	
. ZIP CODE 58701	
+ 1ST AV SW INTERSECTS	
110 MINOT ELECTRIC INC contrs	852-0551
+ 2D AV SW INTERSECTS	
200 FIRST BAPTIST CHURCH	852-4533
+ WESTERN AV INTERSECTS	
220 Vacant	
222 Not Verified	
+ 3D AV SW INTERSECTS	
306 INTERSTATE BRANDS CORP (GARAGE)	852-2531
312 UNITED BLOOD SERVICES OF DAKOTAS-MINOT	852-2161
+ BURDICK EXPRESSWAY INTERSECTS	
412 Landry John W []	839-2057
420 COMMUNITY ACTION OPPORTUNITIES INC socl serv org	839-7221
+ 5TH AV SW INTERSECTS	
+ 8TH AV SW INTERSECTS	
800 Anderson Edward A & Myrtle []	839-7053
803 Martin Donald D []	839-6881
804 Norberg Dale L & Dorothy []	838-1012
805 Nathan Neil S & Sherry []	852-3457
809 Vacant	
812 Rubbelke Robert J & Nancy []	838-3454

3D ST SW	cont'd
Rubbelke Nancy R	838-3454
+ A AV INTERSECTS	
820 Parge Robert E & Irene []	838-0850
825 Vangness Stanley []	838-9370
830 HOUGE APARTMENTS	838-4922
A Ganje Daniel R []	839-1514
B Schwartz Douglas R & Priscilla []	838-2334
C Houge Clyde H & Janell []	838-4922
D Granheim C L []	839-3886
831 Rose Willard T & Inez []	839-7146
840 Hoffer Barry D []	838-7184
+ 9TH AV SW INTERSECTS	
901 Ross Lorayne B []	852-1854
902 Muus Steve P []	852-4304
906 Clouse Jennifer L []	839-4920
912 Lucy Michael A & Nancy []	838-7634
1305 Kleinsasser Virginia H []	839-6738
1316 Vacant	
1317 Brabant Roger L & Juell []	839-6577
1318 Not Verified	
1320 Schaefer Lorrie M & Kathy []	852-6446
1321 Burckhard Mark P & Tara []	838-4543
1324 O'Brien William J []	838-5380
1327 Heidt Theresa M []	852-3548
1330 Vacant	
1334 Volk Kenneth J & Deb []	839-6383
1335 Heinze Robert J & Laura []	839-2919
BUSINESSES 6	HOUSEHOLDS 29
4TH AV NE -FROM MAIN ST EAST, 1 NORTH OF MOUSE RIVER	
. ZIP CODE 58701	
11 Ziesing Konrad & Saralee []	852-6442
+ 1ST ST NE INTERSECTS	
109 Vacant	
115 Wickman Joe []	838-4784
117 Not Verified	
+ 2D ST NE INTERSECTS	
203 Vacant	
207 Myers David T & Karla []	852-5418
209 Not Verified	
211 Vacant	
+ 3D ST NE INTERSECTS	
308 CONNALE & SOMMERVILLE plmb & hgt	839-7944
400 MINOT WELDING CO wldrs & brazers	838-0513
404 Not Verified	
436 Vacant	
+ 6TH ST NE INTERSECTS	
600-601 Vacant (2 Hses)	
605 AMERICAN LINEN SUPPLY	852-0351
612 TARGET ROOFING	838-4482
614 Vacant	
+ 7TH ST NE INTERSECTS	
706 Vacant	
+ 8TH ST NE INTERSECTS	
826 Vacant	
+ 9TH ST NE INTERSECTS	
+ 14TH ST INTERSECTS	
1620 LOWE'S FLORAL AND GARDEN CENTER greenhouse	839-2000
+ 27TH SE INTERSECTS	
BUSINESSES 5	HOUSEHOLDS 4
4TH AV NW -FROM MAIN ST WEST, 4 NORTH OF CENTRAL	
. ZIP CODE 58701	
12 Hathaway Melissa []	852-8928
12 1/2 Johnson Annie May	852-8277
14 Not Verified	
14 1/2 Apartments	
A-B Vacant (2 Apts)	
+ 1ST ST NW INTERSECTS	
100 Not Verified	
100 1/2-102 Vacant (2 Hses)	

4TH AV NW	cont'd
102 1/2 Bayert Eve K	858-0562
103 HOME SWEET HOME gift shop	852-5604
106 PICKET FENCE THE gift shop	
107 Not Verified	
110 Apartments	
A-B Vacant (2 Apts)	
111 Struckness Dale E & Marion []	838-7398
114 Christopherson Karla J []	839-8039
Christopherson Cissandra L	839-8039
+ WALTERS ST INTERSECTS	
+ 2D NW INTERSECTS	
+ 4TH ST NW INTERSECTS	
413 Magandy Ronda A []	838-8878
Zethren Josephine L	838-8878
414 Hayes Gladys []	838-0487
417 Vacant	
419 Hernandez Joe W & Maria []	858-0956
422 Engleson Rod F & Peggy []	839-5821
423 Huizenga Thelma L []	838-7953
426 Runyan Thomas A & Donna	839-0024
429 Panasuk Orrin L & Vicki []	839-8795
+ 5TH ST NW INTERSECTS	
504 Wallin Julianne M []	839-5341
505 Germain David A & Violet []	839-2772
510 Jelleberg Robert E & Cinthia []	838-3548
524 Vacant	
+ 6TH ST NW INTERSECTS	
600 Apartments	
1 Vacant	
2 Braaten Tara D []	838-9223
3-4 Vacant (2 Apts)	
608 Vacant	
610 Not Verified	
618 Bechtold Margery M []	839-4169
618 Vacant	
620 Lakefield David R & Pennie []	852-5348
+ 7TH ST NW INTERSECTS	
700 Vacant	
702 Olson Wanda M []	838-4235
Olson Melissa S	838-4235
706 Cooper Robert J & Barbara []	838-8580
708 Aanestad Alfred A & Nardine []	839-1345
712 Murphy Janet E []	839-1779
716 Brevig Gary D & Lois []	852-9244
720 Mc Laughlin Tim J & Jody []	852-2822
+ 8TH ST NW INTERSECTS	
800 Diebert Scott J []	839-0073
806 Lovdahl Thomas H []	838-3503
809 Lovdahl Gerald R []	838-2615
812 Vacant	
813 Esterby Nora O []	838-0590
Esterby Mike P	838-0590
814 Dahl Manuel & Elsie []	838-2908
818 Linington-Geneva H []	839-2477
822 Scheeler Robert J & Janeen []	838-6370
826 Schmalz Loren M []	838-7727
Schmalz Joseph B	838-7727
+ 9TH ST NW INTERSECTS	
900 Belinsky Carol R []	839-2379
901 Bohlig Corey J & Valerie []	839-0247
902 Luck Brad R & Holly []	838-1126
905 Vacant	
906 Beede James D & Venus []	839-0422
910 Christensen John F & Joan []	852-6911
915 Burckhard Dennis J & Sheila []	852-2401
916 Ryan P J & Michelle []	839-3765
Ryan Erin	839-3765
917 Cartier Rene A & Barbara []	838-5269
Cartier Aimee M	838-5269
Cartier Steven B	838-5269
920 Mayer Robert M & De Ann []	839-0947



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16

3D ST SE-Contd

- 925 Waind David W & Charise L [9]+ @ 839-6552
926 Saltsman Geo J & Mary [9]+ @ 839-5925
• 10TH AV SE INTERSECTS
1000 Not Verified
1006 MARLENE'S MONOGRAMING 839-5941
Tiller Geo R & Marlene O [9] @ 839-5941
1008 Upstairfired Not Verified (2 Hses)
Bsmt Buettner Steve M [2] 839-3015
1012 Paul Geo Jr & Margt V [5] @ 838-6986
1016 Prescott Sheri [2]
Bsmt Not Verified
1020 Sande Jackie & Jacqueline A [2] @ 838-7940
• 11TH AV S E INTERSECTS
1106★Brewer Donald 838-9206
1108 Schalesky Marty D & Carol J [3] @ 852-8710
• 12TH AV S E INTERSECTS
• 13TH AV S E INTERSECTS
• SE ST PETER AV INTERSECTS
• 14TH AV S E INTERSECTS
1704 Laqua Richd W & Cecelia M [9]+ @ 838-6727
1705 Not Verified
1710 Haberlack Paul R [9]+ @ 838-7958
1711 Price Terry C & Sandra R [5] @ 838-4854
1715 Mostad Chris & Marie L [9]+ @ 839-3792
1716 Ressler Wilbert F & Barbara E [9]+ @ 839-4535
1721 Klimpel Vernon L [9]+ @ 839-8244
1722★Nitsch Paul & Karen L
1727 Kleingartner Marie A [9]+ @ 852-2281
1728 Simmons David Rev & Florence [9]+ @ 838-3752
1735 SEVENTEEN THIRTY FIVE APARTMENTS 852-1765
1 Bennett Kathleen [2] 838-2281
1 Bennett Sharon N 838-2281
2 Mehl Connie [2] 852-6188
3★Doure Angela R 852-6612
4 Not Verified
67 HOUSEHOLDS
37 BUSINESSES

3D ST SW -FROM CENTRAL AV SOUTH 3 WEST OF MAIN ST

- ZIP CODE 58701
• 1ST AV SW INTERSECTS
108 MINOT ELECTRIC INC (WHSE)
110 MINOT ELECTRIC INC contr 852-0551
• 2D AV SW INTERSECTS
200 FIRST BAPTIST CHURCH 852-4533
• WESTERN AV INTERSECTS
220 Vacant
222 Dhuybetter Chris T [2] 838-4952
• 3D AV SW INTERSECTS
306 INTERSTATE BRANDS CORP (GARAGE) 852-2531
312 UNITED BLOOD SERVICES OF DAKOTAS-MINOT 852-2161
• BURDICK EXPRESSWAY INTERSECTS
412 Landry John W [9]+ 839-2057
420 COMMUNITY ACTION OPPORTUNITIES INC socl serv org 839-7221
• 5TH AV SW INTERSECTS
• 8TH AV SW INTERSECTS
800 Anderson Edw A & Myrtle E [9]+ @ 839-7053
803 Martin Donald D [9]+ @ 839-6881
804 Norberg Dale L & Dorathy E [9]+ @ 838-1012
805 Nathan Neil S [9] @ 852-3457
809★Howe Patricia H
Currier Linda D
Reyes-Flores Lena
812 Rubbelke Robt J & Nancy R [4] @ 838-3454
• A AV INTERSECTS
820 Parge Robt E & Irene [9]+ @ 838-0850
825★Heinze Marianne R @
830 HOUGE APARTMENTS 838-4922
A★Ganje Danl R 839-1514
B Schwartz Doug & Priscilla [2] 838-2334
C Hough Clyde H & Janell K [9]+ @ 838-4922
D Hanson Mark A [2]

- 831 Rose Willard T & Inez F [7] @ 839-7146
840 Waller Armida G [9]+ @ 852-2324
• 9TH AV SW INTERSECTS
901 Ross Lorayne B [9]+ @ 852-1854
902 Muus Steve P [4] @ 852-4304
906★Stevenson Troy D & Tora L 838-1449
912★Mack Bruce Allen & Susie M 852-0981

- 1305 Kleinsasser Virgine H [9]+ @ 839-6738
1316 Baros Patk A & Doreen K [3] @ 852-9110
1317 Brabandt Roger L [9]+ @ 839-6577
1318★Goerndt J D
1320 Schaefer Lorrie M & Kathy L [8] @ 852-6446
1321 Burkhard Mark P & Tara J [2] @ 838-4543
1324 O'Brien Wm J [8] @ 838-6380
1327 Heidt Theresa M [8] 852-3548
1330 Henderson Stanton & Barb W [3] @
1334★Volk Kenneth J & Deborah J @ 839-6383
1335 Heinze Robt J [9]+ @ 839-2919
31 HOUSEHOLDS
5 BUSINESSES

4TH AV NE -FROM MAIN ST EAST 1 NORTH OF MOUSE RIVER

- ZIP CODE 58701
11 Vacant
• 1ST ST NE INTERSECTS
109 Knutson Neal [2] 839-0392
115 Not Verified
117★Jennings Sara E
• 2D ST NE INTERSECTS
203 Glock Katherine D [9]+ @ 838-2429
207★Myers David & Karla
209 Kenyon Katherine D [9]+ @ 838-4808
211★Auck Robt C & Dawn
• 3D ST NE INTERSECTS

- 308 Vacant
400 MINOT WELDING CO wldrs & brazers 838-0513
404 Faine John [9]+ @ 838-8674
Faine Eddie 838-8674
436 Vacant
• 6TH ST NE INTERSECTS
600 LIBERTY DEER TAVERN bar 852-5013
601 Vacant
605 AMERICAN LINEN SUPPLY 852-0351
614 Vacant
• 7TH ST NE INTERSECTS
706 Vacant
• 8TH ST NE INTERSECTS
826 J & S INSULATION 838-3759

- 9TH ST NE INTERSECTS
• 14TH ST INTERSECTS
1620 LOWE'S FLORAL greenhouse 838-2868
• 27TH SE INTERSECTS
8 HOUSEHOLDS
5 BUSINESSES

4TH AV NW -FROM MAIN ST WEST 4 NORTH OF CENTRAL

- ZIP CODE 58701
12 Downs Bessie M [9]+ 852-6870
Downs Doris M 852-6870
12½★Hank Gladys 838-5238
14½ Apartments
A★Sanders Marvin B & Amy 838-0866
B Vacant
• 1ST ST NW INTERSECTS
100 Schimke Yvette A [3] 838-4904
100½ Vacant
102 Not Verified
102½★Walth Patti 839-8365
103 HOME SWEET HOME gift shop 852-5604
RUSSELL ENTERPRISES gift shop 852-5604
106 Gruenberg Richd J [2] @ 839-0206
107★Job Terry T
110 Apartments
A Carlson Paul W [2] 852-2941
A Williams Thos J 852-2941
B Not Verified
111 Struckness Dale E [9]+ @ 838-7398
114 Christopherson Karla I [2] @

- WALDERS ST INTERSECTS
• 2D NW INTERSECTS

- 4TH ST NW INTERSECTS
413 Not Verified
414★Hayes Gladys
417 Vedvig Marvin [2] 839-5039
419 Mulvaney Wm R & Julie A [2] 852-8284
422★Radke Shannon D & Dori Jean @ 838-6560
423 Huizenga Thelma L [9]+ @ 838-7953
426 Burnette David M & Cynde [2] @ 852-4729
429 Panasuk Orrin L & Vicki J [9]+ @ 839-8795
Olson Derrick E Panasuk 839-8795
• 5TH ST NW INTERSECTS
504 Wallin Julianne M [9]+ @ 839-5341
505 Germain David A & Violet A [9]+ @ 839-2772
510 Jelleberg Robt & Cynthia [2] @ 838-3548
Jelleberg Cynthia 838-3548
524 Mayer Darrin C & Shellie D [2] @ 838-8886
• 6TH ST NW INTERSECTS
600 Apartments
1★Fox Lesa
2★Houde Rich D
2 Rivard Paula K
★Swenson Dallene C 839-3449
4 Ofsthun Steve D [2] 839-5094
608★Yester Jim
610 Stiefel Nora [9]+ @ 839-8632
618★Bechtold Margery @ 839-4169
Bsmt Vacant
620★Tossett Andy R & Judith A 839-5360
• 7TH ST NW INTERSECTS
700 Stahl Sara J [2] 852-6675
702 Kastner Allen J [2] 838-1165
706 Not Verified
708 Aarstad Alf A & Naedine M [5] @ 839-1345
712★Neard Wendell O & C Erlays 839-5794
716★Wood Wm & Lucinda @ 839-1397
720 Mc Laughlin Tim J & Jody K [2] @ 852-2822
Mc Laughlin Riva L 852-2822
• 8TH ST NW INTERSECTS
800 Not Verified
806 Lovdahl Thos H [9]+ @ 838-3503
809 Lovdahl Gerald R [9]+ @ 838-2615
812 Lyon Wm R & Mavis I [9]+ @ 852-0460
813 Esterby Nora O [4] @ 838-0590
814 Dahl Elsie F [9]+ @ 838-2908
818 Linington Geneva H [9]+ @ 839-2477
822 Scheeler Robt J & Janeen [9]+ @ 838-6370
Scheeler Tom 838-6370
826★Schmalz Joseph B @ 838-4836
Schmalz Loren M 838-4836
• 9TH ST NW INTERSECTS
900 Not Verified
901 Tinjun L A [2] 838-0469
902 Kurry Toby L [2] 852-0120
Sell Lisa 852-0120
905 Hanson Hannah A [9]+ @ 838-3937
906 Klimpel Venus [2] @ 839-0422
Beede Jim D 839-0422
910 Christensen John F & Joan M [7] @ 852-6911
915 Burckhard Dennis J & Sheila A [9]+ @ 852-2401
916 Ryan Pat J & Michelle [4] @ 839-3765
917 Cartier Rene A & Barbara J [9]+ @ 838-5269
No Return 838-5269
1 Keating Bruce H & Toni [2] 852-3350
1000 Higgins Berlin L & Beverly G [9]+ @ 839-5887
1001 Darling Donald A [9]+ @ 839-3502
Floor Barnard Robt & Floy [2] @ 852-5419
Upstairs Tyson Amy [2] 839-0510
Bsmt Headrick Loren M [2] 838-8574
1005 Bach Ollie M [9]+ @ 839-1244
1124 RIVIERA LOUNGE 838-4035
1212 ALLEN REALTY (WHSE)
MINOT MAGIC GYMNASICS
Instruction 838-3679
VOGUE II BEAUTY SALON 852-6003
G ANNES ALTERATIONS 852-1577
BRAY'S CLEANERS 852-4570
BUDGET MUSIC & VIDEO 852-4439
1224 O M F ofc sup 852-1412
1300 OAK PARK SHOPPING CENTER 838-8400

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3D ST SE—Contd
1704 Laqua Richd W @ 838-6727
1705 Nelson David @ 838-3945
1710 Haberland Paul R @ 838-7958
1711★Hanson Edw S @
1715 Mostad Chris @ 839-3792
1716 Ressler Wilbert F @ 839-4535
1721★Klimpel Vernon L @ 839-8244
1722 Nitsch Paul F @ 838-7351
1727 Kleingartner Herbert A @ 852-2281
1728 Simmons David Rev 838-3752
1735 Seventeen Thirty Five Apartments
852-1765
1★Lysne Scott A 838-0441
2 Lynch Ruth M 852-4528
3★Stults Chas L 839-7978
4 Olsen Vince H 852-0224

3D ST SW —FROM CENTRAL AV SOUTH 3 WEST OF MAIN ST

ZIP CODE 58701
1ST AV SW INTERSECTS
108 Minot Electric Inc (Whse)
110 Minot Electric Inc contr 852-0551
2D AV SW INTERSECTS
WESTERN AV INTERSECTS
200 First Baptist Church 852-4533
220 Vacant
222 Seney Joyce Mrs 839-5979
3D AV SW INTERSECTS
306 Interstate Trans Co (Garage & Depot)
838-3428
Union Bus Depot 852-4671
312 United Blood Services Of Dakotas-Minot
852-2161
4TH AV SW INTERSECTS
408 Vacant
412 Landry John W 839-2057
420 Valke-Andrews Floral & Greenhouse
852-1328
5TH AV SW INTERSECTS
6TH AV SW INTERSECTS
8TH AV SW INTERSECTS
800 Anderson Edw A @ 839-7053
803 Martin Donald D @ 839-6881
804 Norberg Dale L @ 838-1012
805 Vacant
809 Vacant
812★Schalesky Alwood J 838-0173
A AV INTERSECTS
820 Parge Robt E @ 838-0850
825 Opdahl Ruth H Mrs @ 838-0816
830 Hogue Apartments
A Chamberlain Joseph B 839-2254
B Clark Cora I 838-2678
C Hogue Clyde H @ 838-4922
D Effertz Verle 838-7956
831 Rose Willard T @ 839-7146
840 Waller Geo J @ 852-2324

11

9TH AV SW INTERSECTS
901 Ross Leander F archt @ 852-1854
902 Vacant
906 Self Ida Mrs @ 838-1449
912 Baker Colleen @ 838-3229
1305 Kleinsasser Virgine H Mrs @ 839-6738
1316★Baros Patk A
1317 Brabant Roger L @ 839-6577
1318★Austin Wm A 839-3869
1321 Killmer Joseph @ 852-5711
1324 Vacant
1327★Alarcon Mary Lou T 839-2702
1330★Henderson Stanton L @ 839-4502
1335 Heinze Robt J @ 839-2919

9

4TH AV NE —FROM MAIN ST EAST 1 NORTH OF MOUSE RIVER

ZIP CODE 58701
11 Vacant
1ST ST NE INTERSECTS
109 Healy James H @ 838-4243
115 No Return
117 Lovelace Joseph M 839-4788
2D ST NE INTERSECTS
203 Glock Katherina D Mrs @ 838-2429
207 Vacant
209 Kenyon Ellsworth L @ 838-4808
211 Fox Alice M Mrs 838-0585
MOUSE RIVER INTERSECTS
308 Northern Machine mach shop 839-2344
400 Minot Welding Co wldrs & brazers
838-0513
404 Faine John @ 838-8674
436 Cenex Chemical Fill-In Point chemical
dealers 839-8905
6TH ST NE INTERSECTS
600 Liberty Tavern
601 Sears Roebuck And Co (Serv Center)
857-1272
605 Wilbur-Ellis Co 852-5199
614 American Freight 852-1368
Swenson Rube Warehouse 839-2630
7TH ST NE INTERSECTS
706 Vacant
8TH ST NE INTERSECTS
826 Arnie's Insulating Supplies 852-5690
1620 Lowe's Gardens Inc greenhouse 838-2868
9TH ST NE INTERSECTS

20

4TH AV NW —FROM MAIN ST WEST 4 NORTH OF CENTRAL

ZIP CODE 58701
12 Downs Bessie M @ 852-6870
12½ Hanke Gladys P 838-5238
14½ Apartments
A Kraft Terry 852-6670
B Leiter Mark G 839-1907

17

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27

4TH AV NW—Contd
1ST ST NW INTERSECTS
100★Bush Alan R 852-8027
100½★Vinje Kevin 839-0067
102 Vacant
102½★Krout Penny
103 Garness Hardie J @ 838-3691
105 Vacant
106 Happel Thos J 852-4659
110 Apartments
A★Nichols Ace C
B★Pearson Josephine 852-0258
C Vacant
111 Struckness Dale E @ 838-7398
114 Vacant
WALDERS ST INTERSECTS
2D NW INTERSECTS

826★Gorden Zollie @ 838-1582
9TH ST NW INTERSECTS
900 Mommerak Andrew @ 838-1682
901 Ward Michl P 839-6705
902★Noa Butch 838-8706
905 Hanson Hannah A Mrs @ 838-3937
906 Johnson Lillian O 838-4432
910 Christensen John F @ 852-6911
915 Burckhard Dennis J 852-2401
916 Wallace Gregory W K @ 839-3715
917 Cartier Rene A @ 838-5269
920 Apartments
1 Madsen Marvin K @ 852-4317
2 Bond Jack R 838-5323
1000 Higgins Verlin L @ 839-5887
1001 Darling Donald A @ 839-3502
1004 Carlson Hamphen C @ 838-1972
Tyson Amy Mrs 839-0510
1005 Bach Lloyd R @ 839-1244
1124 Riviera Lounge 839-9932
1200 Bray's Cleaners 852-4570
1212 Gym Dandy's Training Center 852-4585
Allen Realty (Whse)
Vogue II Beauty Salon 852-6003
Klara Alteration 852-1577
1224 Vacant
1300 Oak Park Shopping Center 838-8400
Allen Realty Co 838-8400
1302 Arnie's Sewing Center 839-2503
1310 Vacant
1314 Service Shoe Shop 838-1722
1400 Oak Park Laundromat 839-9091
1400a No Return
1400b Vacant
1400c Burdick Grain Co 852-3607
1400d Four Paws Dog Grooming 852-5202
15TH ST NW INTERSECTS
1500 Minot Christian Center 852-2690
1500a Oak Park Book Gift & Sound ret
839-4740
1500b Christian Center (Annex)
1500c Christian Center (Annex)
1506 Frye Faye E Mrs @ 838-0808
1507 Sjaastad Julie Lynn
1508 Merck Cecilia M Mrs @ 839-3976
1509 Grosche Donald A 838-8058
1512 Mini Mart 852-5331
16TH ST NW INTERSECTS

15

304 Reorganized Church Of Jesus Christ-L D
S 839-5197
4TH ST NW INTERSECTS
413 Grosz Gary D @ 838-4352
414★Ellis Michl @ 838-1079
417 Burtman Gerald L @ 839-5039
419 Doerr Kurt M 838-8031
422 Knudson Sterling A 838-3714
423 Huiwenga Thelma L @ 838-7953
426 Larson Rick D @ 838-3528
Apartments
1 Slavens Shelly G 852-0669
429 Panasuk Orrin L @ 839-8795
5TH ST NW INTERSECTS
504 Wallin Julianne M Mrs @ 839-5341
505 Germain David A @ 839-2772
510 Vacant
524★Olsen Frank R 838-5729
600 Apartments
1 No Return
2 Abdalla Roberta 838-4301
3 Grooms Bruce 852-2709
4★Genao Juan 838-2525
608 Hargrave Robt. E @ 839-1422
610 Stiefel Nora Mrs @ 839-8632
618 Riebe Mabel E @ 839-4016
620 Mc Kinzie Linda S @ 839-0102
7TH ST NW INTERSECTS
700 No Return
702 Byerly Margo J 852-3287
706★Barrett Bradley G @ 852-2366
708 Fredrickson Myrtle @ 838-8607
712 Meinhardt Leroy D @ 839-7842
716 Vacant
720★Mc Laughlin Tim J @ 852-2822
8TH ST NW INTERSECTS
800★Carhart Eric
806 Lovdahl Thos H @ 838-3503
809 Lovdahl Gerald R @ 838-2615
812 Lyon Wm R @ 852-0460
813 Rock Lucien A @ 839-3878
814 Dahl Elsie F @ 838-2908
818 Linington Victor A @ 839-2477
822 Scheeler Robt J @ 838-6370

23

1602 Beer Depot 852-1103
Oak Park News Arcade 839-4839
Soltis Business Forms 852-3676
1609 Meat Stop
1607 No Return
1620 Midwest Tire & Muffler 839-8046
17TH ST NW INTERSECTS
1705 J R's Texas Style Chicken & Catering
Service 852-5358
1706 Vacant
1710 Mennonite Brethren Church 838-0916
18TH ST INTERSECTS
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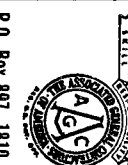
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529 Henjum Marion N Mrs ©
838-2569

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601 Gudmunson Sheldon L ©
852-4969

605 Dahlen Lester © 838-0826

611 Le Duc Charles H © 838-8935

617 No Return

Bsmt★Seright R F 839-6334

625 Pringle Kenneth G ©
838-3476

629 Olson Burton G © 839-4550

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700 Westling Geo © 839-6634

707 Vacant

710 Barnes Dennis E © 838-9666

712 Krabbenhoft Lawrence E ©
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809 Foss Bert © 838-2064

810 Sys Joseph © 838-2263

812 Vacant

814 Smette Geo H © 838-8904

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818 Maupin School Of Dance

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819 Colton Edith © 838-2264

823 Samuelson Melford J ©
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825 Tooley Gladys T Mrs ©
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826 Fraley James A © 838-6843

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900 Buggert Wm G © 838-5219

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905 Lyon John M © 852-2005

906 Petrucci Many Mrs ©
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908 No Return

909 Gross Alma H Mrs ©
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912 Gruzensky Matt © 839-3328
Dovich Raelene 838-9393

913 Olson Edwin W © 839-4007

916 Roen Agnes Mrs 838-5549

919 Eman Melvin R © 839-4696

920 Haberman Donald S ©
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921 Ringdahl Wm R © 839-1069

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925½ Vacant

926 Saltzman Geo J Jr ©
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10TH AV SE INTERSECTS

1000 Fink Deborah

1006 Reinke John L © 839-6165

Bsmt Seranno Bruno 839-1517

1008 Braasch Elmer L © 838-9632

Gron Dahl Karen M 839-1609

Bsmt★Zeretzke Susan 839-7289

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1016 Rogers Kenneth R ©

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13TH AV S E INTERSECTS

SE ST PETER AV

INTERSECTS

14TH AV S E INTERSECTS

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MAIN ST**

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108 Minot Electric Inc (Whse)

110 Minot Electric Inc contr
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215 Barnett Richd D 839-6088

217 Ackerman Hannah S Mrs ©
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3D AV SW INTERSECTS

300 Interstate Trans Co (Garage)
838-3428

316 Vacant

4TH AV SW INTERSECTS

408 Peters Esther M Mrs 838-1467

412 Landry John W 839-2057

420 Valke Floral Inc &
Greenhouse 852-1328

5TH AV SW INTERSECTS

6TH AV SW INTERSECTS

8TH AV SW INTERSECTS

800 Anderson Edw A © 839-7053

803 Seel Jacob D © 839-6046

804 Norberg Dale L © 838-1012

805 Wengel Harold A © 838-6735

809★Lorenzen Roger

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820 Parge Robt E © 838-0850

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A Chamberlain Joseph B
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C Houge Clyde H 838-4922

D★Shirley Alf C 839-1740

831 Rose Willard T © 839-7146

840 Waller Specialty Co adv

novelties 852-2324

Waller Geo J © 852-2324

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901 Ross Leander F archt ©

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906 Self Ida Mrs © 838-1449

912 No Return

1305 Kleinsasser Virgine H Mrs
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1316★Underdahl Ralph 839-2876

1317 Brabandt Roger L ©

839-6577

1318 No Return

1321 Killmer Joe © 838-4188

1324★Ensrude Eleanor M

839-3482

1327 Hayko John © 839-5127

1332 No Return

1333★Erickson Eric P 839-4157

1335 Heinze Robt J © 839-2919

**4TH AV NE —FROM MAIN ST
EAST 1 NORTH OF MOUSE
RIVER**

ZIP CODE 58701

11 Kinyon Willard R © 839-2986

1ST ST NE INTERSECTS

109 Healy James H © 838-4243

113 Vacant

117 Howell Wallace D

2D ST NE INTERSECTS

203 Bates Kathy © 838-2429

207 Zodrow Anna E Mrs ©

838-0897

209 Kenyon Ellsworth L ©

838-4808

211 Fox Charles Jr 838-0585

MOUSE RIVER INTERSECTS

308 Northern Machine 838-1839

Western Sheet Metal Co

839-3020

400 Minot Welding Co 838-0513

401 Cole Petroleum Co whol

838-9406

404 Faine John © 838-8674

★Reed Leonard

415 Interstate Brands Inc (Whse)

436 Cenex Distribution Center oil

& auto parts 852-3588

6TH ST NE INTERSECTS

600 Liberty Tavern 838-9924

601 Sears (Serv Center) 852-1061

605 Vacant

614 Twin City Freight 838-2202

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8TH ST NE INTERSECTS
826 Robinson Insulation Co whol
852-5363
9TH ST NE INTERSECTS

4TH AV NW —FROM MAIN ST
WEST 4 NORTH OF
CENTRAL

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12 Downs Bessie N 852-6870
14½ Madison Berma R 838-8620
Bemt Vacant
29 No Return

1ST ST NW INTERSECTS

100 No Return
100½ Pulliam Kennith R
102 Vacant
102½ Flowers Alvie 838-5556
103 Garness Hardie J © 838-3691
105 Brown Joseph H
106 Durbin James M
107 Struksnes Harold C ©
838-4660

110 Hohmann Dean © 838-0078
111 Struckness Dale E ©
838-7398

114 Hansey Larry 838-7991
126 Sheep Shed Tavern 852-0734
WALDERS ST INTERSECTS
2D NW INTERSECTS
MOUSE RIVER CROSSES

304 Reorganized Church Of Jesus
Christ-L D S 839-5197
308 Vacant
312 No Return
316 Vacant

4TH ST NW INTERSECTS

406 Vacant
408 Vacant
410★Drake Thos C © 852-6657
413★Copley Michl 838-2528
414 Donovan Mary 838-0139
417 Vacant
419 Phillips James E © 839-8805

422 Knudson Sterling A ©
838-3714
423 Huizenga Nick © 838-7953
426★Ponder Richd B 838-5036
★Halley Tick 839-1049
429 Olson Wm M
5TH ST NW INTERSECTS
504 Wallin Ralph C © 839-5341
505 Germain David A © 839-2772
510 Dobson Richd R © 852-3897
524 Solberg Roger J © 838-7367
600★Rahn Bambi D Mrs
★Molina Cindy L 839-4589
★Lehmann Jeffrey R
608 Watland Melvin O 839-3837
610★Stiefel Nora Mrs © 839-8632
618 Riebe Mabel E Mrs ©
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620 Hovelka Arnold J
7TH ST NW INTERSECTS
700 Vacant
702★O'Brien Barry 839-2556
706 Palkovich Joseph B 839-6911
708 Fredrickson Arth C ©
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712 Vacant
716★Ziegler Barry © 839-7681
720★Walker Hallie ©
Roebke Cath A 839-8594

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800 Walsh James L © 839-4848
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812 Lyon Wm R © 852-0460
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900 Belinsky Carol Mrs 839-2379
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906 Hanson Mae E Mrs ©
838-9237
910 Valor Lucille O Mrs ©
852-3071
915 Salo Arne A © 838-1970
916 Bergem Raymond M ©
838-3561
Bemt Vacant
917 Bacon Grace V Mrs ©
838-3070
Bemt Vacant
920 Willoughby John D
1000★Higgins Verlin L ©
839-5877
1001 Darling Donald A ©
839-3502
1004 Carlson Hamphen C ©
838-1972
Tyson Amy Mrs 839-0510
1005 Bach Lloyd R © 839-1244
MOUSE RIVER CROSSES
1124 Riviera Lounge 852-0932
1212 Allen Rlty (Whse)
Clothes Rack 852-5316
Paige's Figurama 53 colony
pk 852-6720
1224 Oak Park White Drug
852-0388
White's One Hour Cleaners
838-0104
1300 Oak Park Shopping Center
Allen Realty 838-8400
1302 Arnie's Pfaff Sewing Center
839-2503
1310 Piggly Wiggly (Br) gros
852-4458
1400 Hylander Center self serv
ldnry 852-0091
Plant Factory The plants-
flowers sls ret 839-7927
1400a Service Shoe Shop shoe
reprs 838-1722
1400b Budget Tapes & Records
852-5321
1400d Naslund's TV Repair
839-7129
15TH ST NW INTERSECTS
1500 Oak Park Theatre 838-6008

1500a Burdick Grain Co grain
exch 852-3607
1500b Vacant
1500c Vacant
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Prfssnl Engs Land Srvys
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1506 Frye Jacob © 838-0808
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1508 Merck Cecilia M Mrs ©
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1509 Grosche Donald A 838-8058
1512 Northwest Banner Service
852-0756
Damberger Inc 838-1529
16TH ST NW INTERSECTS

1602 Oak Park Shopping Center
1601 Scotti Muffler Center
839-8768
1602 Roy's Beer Depot 839-6625
Oak Park News Arcade
839-4839
1607 Vacant
1609 Community Development
852-3767
City Planning 852-4041
City Insp Dept 852-4041
City Engineer Dept 852-4041
1620 Garden Valley Mobil
852-0804

17TH ST NW INTERSECTS
1705 Kentucky Fried Chicken
852-4194
1706 Oak Park Tastee Freez
frozen desserts dlrs 839-1565
1710 Mennonite Brethren Church
838-0916
18TH ST INTERSECTS
1800 Northwest Laundromat self
serv 852-0741
1801 Marsland Realty Inc
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1809★Capaci Harold P ©
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1810 Wag In Tail dog groomers
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921 Ringdahl Wm R © 839-1069
925 Kingsnorth Esther A 839-5595
925½ * Wagner Leigh
926 Saltsman Geo J Jr ©
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10TH AV SE INTERSECTS

1000 No Return
1006 Reinke John L © 839-6165
* Veiluva Michele
1008 Braasch Elmer L © 838-9632
* Fox Ronald 838-6871
Bsmt * Saint Clair Lola
1012 Thompson Henry L ©
838-3638
1016 Rogers Kenneth R ©
838-9611
1016½ Ruud Edw W 838-9611
1019 Vacant
1020 Gange Albin P 838-2214
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1106 Esser Leo F © 839-1943
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13TH AV S E INTERSECTS
SE ST PETER AV
INTERSECTS
14TH AV S E INTERSECTS

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1ST AV SW INTERSECTS
104 Vacant
108 Minot Electric Inc Whse

110 Minot Electric Inc contr
838-7551
2D AV SW INTERSECTS
204 Cruiser Cab Co 838-8228
* Amrein Raymond W ©
208 * Miltonberger Clyde 838-6517
209 Vacant
Bsmt Vacant
210 Berg Agnes Mrs © 838-1651
213 * Hennessy Eileen L Mrs
838-5739
215 Young Myrtle G Mrs ©
838-2680
217 Ackerman Hannah S Mrs ©
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220 * Soland Margt L 838-9510
222 Seney Joyce Mrs 839-5979
3D AV SW INTERSECTS
300 Interstate Trans Co (Garage)
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316 Vacant
4TH AV SW INTERSECTS
408 Peters Esther M Mrs 838-1467
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420 B & B Plumbing & Heating
Co contr 838-2822
5TH AV SW INTERSECTS

6TH AV SW INTERSECTS
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800 Anderson Edw A © 839-7053
803 Seel Jacob D © 839-6046
804 Norberg Dale © 838-1012
805 Wengel Harold A © 838-6735
809 * Hoffman Thos 838-4331
A AV INTERSECTS
820 Parge Robt E © 838-0850
825 Opdahl Halvor I © 839-4649
830 Waller's Apartments
A Pearson John 838-3608
B Martinsen Leland F
838-5902
C Houge Clyde H 838-4922
D * Mueller Allen 838-2590
831 * Rathbun Raymond A ©
838-2584
840 Waller Specialty Co adv
novelties 839-1324
Waller Geo J © 839-1324
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906 Self Ida Mrs © 838-1449

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10TH AV SW INTERSECTS
11TH AV SW INTERSECTS
1305 Kleinsasser Virgiene Mrs ©
839-6738
1316 Underdahl Johanna Mrs ©
839-3223
1317 * Brabandt Roger © 839-6577
1318 Wright Bruce © 838-6045
1321 * Beck Norman H 838-7877
1324 * Polnizak John 838-6618
1327 Hayko John © 839-5127
1332 Sorenson Larry D 839-4539
1333 Vacant
1335 Vacant

4TH AV NE —FROM MAIN ST EAST 1 NORTH OF MOUSE RIVER

ZIP CODE 58701
11 Kinyon Adeline S Mrs
839-2986
1ST ST NE INTERSECTS
109 Healy James H © 838-4243
113 * Lamb Michl S
117 No Return
2D ST NE INTERSECTS
203 Oen Andrew A © 839-3896
207 Zodrow Anna E Mrs ©
838-0897
209 Kenyon Ellsworth L ©
838-4808
211 Fox Charles Jr 838-0585
3D ST NE INTERSECTS
304 Balerud Ben © 839-4682
308 Northern Machine 838-1839
Western Sheet Metal Co
839-3020
315 Vacant
400 Minot Welding Co 838-0513
401 Cole Petroleum Co whol
838-9406
404 Faine John © 838-8674
* Greenwell Joe 838-9384
436 Farmers Union Central
Exchange oil & auto parts
839-7588
506 Alderman Leon 839-2413
506½ Bjorn Edw 839-6746
508 Sanderson Clarence J
510 Vacant

6TH ST NE INTERSECTS
600 Liberty Tavern 838-9924
601 Sears Serv Center 838-7061
605 Mobil Oil Co (Bulk Plant)
838-0012
614 Twin City Freight 838-2202
Northwest Spraying Service
Inc 839-5603
Swenson Rube Warehouse
839-2630
7TH ST NE INTERSECTS
8TH ST NE INTERSECTS
826 Robinson Insulation Co whol
838-1991
9TH ST NE INTERSECTS

4TH AV NW —FROM MAIN ST WEST 4 NORTH OF CENTRAL

ZIP CODE 58701
12 Callies Rueben W © 838-3695
14½ Halstead Berma R Mrs
838-6681
Bsmt Larsen Connie 838-7845
25 * Doubek Wm J 839-6131
25½ * Jenkins James
29 * Martinson Myrna J 838-6474
1ST ST NW INTERSECTS
100 * Miller Wm D 838-5265
100½ Stach Balzer 838-0106
102 * Esser Darlene Mrs 838-8629
102½ No Return
103 Garness Hardie J © 838-3691
105 * Griffin David 838-7119
106 Krefling Arth F © 838-3675
107 Vacant
110 Mc Diarmid Gloria Mrs
Kessler Sally Mrs 838-3974
Rogers Lyle W 839-1554
111 Vacant
114 Mc Intosh Kathryn Mrs ©
838-1998
126 Sheepshed Bar 838-9734
WALDERS ST INTERSECTS
2D NW INTERSECTS
MOUSE RIVER CROSSES
304 Reorganized Church Of Jesus
Christ-L D S 838-8800
308 Kavlie Hampton A Rev ©
839-7444
310 Vacant
311 * Akerlind Carol 839-4049

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- 312 Vacant
315 Warke Anna M Mrs ©
838-9663
322 Wentz Leona A ©
4TH ST NW INTERSECTS
406★ Wetmur James 839-1560
408 Vacant
410 Vacant
413★ Hoveskeland Raymond P ©
838-6354
414 Vacant
417 Vedvig Marvin E 839-5039
419 Hanson Evonne J Mrs ©
838-4692
422 Knudson Sterling A ©
838-3714
423 Washek Thelma L Mrs ©
838-7953
★ Johnson Brien C 838-7953
426★ Ward Lance D 838-4390
★ La Soya Frank 839-6877
★ Norris James 838-4024
429★ Fonder Leroy M © 838-9443

5TH ST NW INTERSECTS

- 504 Wallin Ralph C © 839-5341
505 Germain David A © 839-2772
510 Sahl Elaine E Mrs ©
839-7011
524 Vacant
600★ Spence Joe L 838-5043
★ Hartwell Geo 839-4112
★ Robertson Wayne
600½ Vacant
608 Watland Melvin O 839-3837
610 Sherwood Juanita M Mrs
838-4630
618 Riebe Mabel E Mrs ©
839-4016
620 Vacant
7TH ST NW INTERSECTS
700 No Return
702 Vacant
706 Vacant
708 Fredrickson Arth C ©
838-8607
712 Rehor Celestine L Mrs ©
838-9346
716 Steinborn Harold H ©
839-6734
720 Sailman Bertha M Mrs ©
839-1438
8TH ST NW INTERSECTS
800 Walsh James L © 839-4848
806 Lovdahl Thos H © 838-3503
809 Jacobsen L Mrs © 838-0930

- 812 Lyon Wm R © 838-5063
813 No Return
814 Dahl Manuel © 838-2908
818 Linington Victor A ©
839-2477
822 Norem Grant M © 838-8608
826 Gordon Zalmon © 838-1582
9TH ST NW INTERSECTS
900 Belinsky Carol Mrs 839-2379
Momerak Andrew © 838-1682
901 Higgins Verlin L 839-5887
902 Reutter Joe T 839-6728
905 Hanson Hannah A Mrs ©
838-3937
906 Hanson Mae E Mrs ©
838-9237
910 Valor T Alfon © 838-3071
★ Otterson Robt M 839-7490
915 Salo Arne A © 838-1970
916 Bergem Raymond M ©
838-3561
Bsmt★ Keller Donald J 839-3268
917 Bacon Grace V Mrs ©
838-3070
Bsmt★ Keefer Alf A Jr 839-7196
920★ Eliason Kelly 838-3201
Alme Paula J 838-4990
1000 Schmidt Russell K ©
839-4657
1001 Darling Donald A ©
839-3502
1004 Carlson Hamphen C ©
838-1972
★ Hough Donna E Mrs
839-6889
1005 Bach Lloyd R © 839-1244
MOUSE RIVER CROSSES
1124 Riviera Lounge Inc 838-9932
1212 Under Constn
1220 Under Constn
1224 Oak Park White Drug
838-0388
White's One Hour Cleaners
838-0104
1300 Oak Park Shopping Center
Allen Realty 838-8400
1302 R & L Maytag Home
Appliance Center 838-7571
1310 Piggly Wiggly (Br) gros
838-5458
1314 American Family Mutual Ins
Co 838-7078
Arnie's Pfaff Sewing Center
839-2503
Marsland Fourth Ave Realty
838-6185

39

4TH AV NW—Contd

- 1400 Hylander Center self serv
ldnry 838-9741
Oak Park Beauty Salon
839-3616
United Tribes Employment
Training Center 838-5494
15TH ST NW INTERSECTS
1500 Oak Park Theatre 838-6008
1500a Mc Millan Co The grain
exch 839-7607
1500b Vacant
1500c Benson-Quinn Co (Br Ofc)
grain broker 838-5475
1506 Frye Jacob © 838-0808
1507★ Bauer Terrance
1508 Merck Cecilia M Mrs
1512 Northwest Sixty Six Service
838-3955
16TH ST NW INTERSECTS

- 1602 Oak Park Shopping Center
Oak Park Westland 838-9001
Oak Park Barber Shop
839-6593
Roy's Beer Depot 839-6625
Oak Park News Arcade
839-4839
Naslund T V Repair
839-7129
1607 Souris Liquor Store 839-2441
1609 Garden Valley Miracle Mart
ret gro 839-2420
1620 Garden Valley Exxon
839-6652
17TH ST NW INTERSECTS
1705 Mc Dowell's Big Boy Take-
Out 839-7771
1706 Oak Park Tastee Freez
frozen desserts dhrs 839-1565
18TH ST INTERSECTS
1800 Northwest Laundromat self
serv 838-9737
1801 Owner Direct Real Estate
brokers 838-2131
Mennonite Brethren Church
838-0916
1809 Sersland Conrad H ©
838-5575
1810 Color Processing Center film
developers 838-1090
1813 Benson Kenneth © 839-4473
1820 Time Rentals rental equip
838-7450

- Webster Foster & Weston
consulting eng 838-9516
19TH ST NW INTERSECTS
1900 Trails Inn Restaurant
838-7740
1909 Karpenko Jean G Mrs ©
839-5177
1913 Rodgers Harrison B ©
839-3845
1924 Johnson's Northwest
Standard Service 838-9895
Ackerman Peter
20TH ST NW INTERSECTS
2001 Vacant
2010 Northwest Executive
Building
Alice's Beauty Salon
838-3068
State Farm Auto Insurance
(Claims Ofc) 838-4919
National Guardian Life Ins
Co 838-9255
Hendrickson Chuck Agency
real est 839-5747
Leonard Edmond C archt
838-1130
Provident Life Insurance Co
838-3532
Miller Gordon N lwyr
838-1755
2021 Minot Paint & Glass Co Inc
838-1625
2022 Heisler's Gro (Stge)
2024 Louie's Barber Shop
21ST ST NW INTERSECTS
2108 Granite Springs Refrigerator
Service 838-5039
2116 Anderson Wade & Barsness
archts 838-5661
2120 Lindsay Soft Water Service
838-5448
Minot Protective Assn
838-5448
22D ST NW INTERSECTS
2200 Price Dale © 838-3192
Bsmt Vacant
2209 Saint Mark's Lutheran
Church 839-4663
2212 Olson Richd B © 838-0228
2309 Peterson Dennis E ©
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2409 Gilfus Geo A © 839-7032

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1106 ESSER LEO F 839-1941
1108 FURULIE CLARENCE A •
839-4592

1201 ROSEHILL CEMETERY

---12TH AV SE INTERSECTS

---13TH AV SE INTERSECTS

---SE ST PETER AV
INTERSECTS

---14TH AV SE INTERSECTS

3D ST SW -FROM CENTRAL AV
SOUTH, 3 WEST OF MAIN ST

---ZIP CODE 58701

---1ST AV SW INTERSECTS

101 MOVERS INC 838-5666
ANDREW'S VAN LINES INC
838-5666GLOBAL VAN LINES INC
838-5666LYON'S VAN LINES INC
838-5666

104 WESTSIDE HOTEL

838-9989

WESTSIDE BAR TAVERN
838-9989

108 MINOT ELECTRIC CO WHSE

110 MINOT ELECTRIC CO
CONTR 838-7551

115 DI BRILL RAYMOND

---2D AV SW INTERSECTS

204 VACANT

208 CRUISER CAB CO
838-8228AMREIN RAYMOND W
838-8228

209 LEE FRANK R 838-6646

BSMT VACANT

210 BERG AGNES MRS •
838-1651

213 VACANT

214 HALSETH FLORENCE F MRS
839-5384

LAUTENSCHLAGER EUG

215 YOUNG MYRTLE G MRS •

217 ACKERMAN HANNAH S MRS
• 839-3991

---WESTERN AVE INTERSECTS

220 REGISTER GARY L •
838-9510222 FALCON BETTY L MRS
839-2947

---3D AV SW INTERSECTS

300 INTERSTATE TRANS CO
(GAR) 838-3428

316 GRILL THE RESTR

838-9050

GOVAN DEE D 838-9050

---4TH AV SW INTERSECTS

408 PETERS ESTHER M MRS
838-1467

412 LANDRY JOHN W 839-2057

420 B & B PLUMBING &
HEATING CO CONTR

838-2822

---5TH AV SW INTERSECTS

---6TH AV SW INTERSECTS

---8TH AV SW INTERSECTS

800 ASPAAS RALPH P •

839-4436

803 JOHNSON DUANE A •

839-3444

804 LYLES ILLADELL MRS •

805 WENGEL HAROLD A •

838-6735

809 PIXOMATIS JOSEPH •

838-2267

---A AV INTERSECTS

812 VACANT

820 PARGE ROBT E •

838-0850

825 OPDAHL HALVOR I •

839-4649

830 WALLER'S APARTMENTS

A PEARSON JOHN

838-3608

B MARTINSEN LELAND F

838-5902

C HOUGE CLYDE H

838-4922

D MOREY A D 839-4881

831 COLLINS GARNETT I •

839-4156

840 WALLER SPECIALTY CO

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901 ROSS LEANDER F ARCHT •
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902 COAD MELVIN S •

838-9638

906 SELF IDA MRS •

838-1449

912 KLEIN WM P 839-1733

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---11TH AV SW INTERSECTS

1305 KLEINSASSER VIRGINIA
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• 839-32231317 CARLSON HJALMER & SON
SAN SERV GARBAGECOLLN 838-2364
CARLSON HJALMER A •

838-2364

1318 VACANT

1321 VACANT

1327 HAYKO JOHN • 839-5127

1332 OFFICER JOYCE A MRS
838-4898

1333 VACANT

1335 PETERSON AUGUST

838-5263

4TH AV NE -FROM MAIN ST
EAST, 1 NORTH OF MOUSE
RIVER

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11 KINYON LAWRENCE H

839-2986

---1ST ST NE INTERSECTS

109 HEALY JAMES H •

838-4239

113 KAPANDAHM ANNIE MRS

117 VACANT

---2D ST NE INTERSECTS

203 OEN ANDREW A •

839-3896

207 ZODROW WM H • 838-0897

209 KENYON ELLSWORTH L

211 FOX CHARLES JR

838-0585

---3D ST NE INTERSECTS

304 FILLER GARAGE AUTO

REPR 838-0552

304A BALERUD BEN •

839-4682

308 NORTHERN MACHINE

838-1839

WESTERN SHEET. METAL CO

839-3020

315 MINOT GRAIN INSPECTION

838-1734

400 MINOT WELDING CO

839-0513

401 COLE PETROLEUM CO WHOL

838-9406

404 FAINE JOHN • 838-8674

HOSKINS HARRY

433 VACANT

436 FARMERS UNION CENTRAL

EXCHANGE OIL & AUTO

PARTS 839-7588

506 MEYERS LINDA MRS

506B BELL ART

506BA WELLCOME CLARENCE O

506B BJORN EDWIN O

506C HOLLAND CONNIE

508 SANDERSON CLARENCE J •

510 LIBERTY GROCERY & MEAT

MARKET

510% WOODS ROBERT

---6TH ST NE INTERSECTS

600 LIBERTY TAVERN

838-9924

601 SEARS SERV CENTER

838-7061

605 MOBIL OIL CO (BULK

PLANT) 838-0012

614 EVANS TRANSFER INC

838-2202

STOHR'S DELIVERY &

MOVING 839-4506

---7TH ST NE INTERSECTS

---8TH ST NE INTERSECTS

801 VACANT

826 ROBINSON INSULATION CO

WHOL 838-1991

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12 CALLIES RUEBEN W •

838-3695

12% DAY BERNARD 839-5035

14% SMITH ELEANOR MRS •

838-3884

20 VACANT

24 VACANT

25 NORSBY MYRTLE A MRS

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29 KNUDSVIG LARRY E

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4TH AV NW--CONTD

100% STACH BALZER 838-0106
102 HANNEMAN LARRY
102% HALL LAURENCE R
838-5034

103 GARNESSE HARDIE J •
838-3691

105 HOAR HELEN G 839-1802

106 KREFTING ARTHUR F •
838-3675

107 GABRIEL KENNETH A
839-4064

110 TOFTLAND GERALD L
838-3020

DIBBLE DAVID G

838-5806

CONNAN ROBBIE L

111 STRUCKNESS MELVIN T •

838-2608

114 MC INTOSH GEO A •

838-1998

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---2D NW INTERSECTS

---MOUSE RIVER CROSSES

15

304 OUR REDEEMERS LUTHERAN
BRETHREN CHURCH

308 STORRY ALDRICH REV •
839-7444

310 OLSON NORMAN L •

311 ARNOLD CLARENCE W

312 BULLOCK FLORENCE L MRS
• 838-2256

315 WARKE ANNA M MRS •
838-9663

BSMT HENSLEY MICHL L
838-4723

316 REID O GLENN •

317 PETERSON LEONARD E •
838-8642

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319 WARKE ANDREW C •

839-2008

SMOLENSKY PETER

320 FLORAL REBEKAH LODGE
NO 14

MINOT LODGE NO 45

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322 WENTZ LEONA A •

324 DALY STAN

329 HANSON PETRA B MRS •
839-2071

330 PETERSON SEWALL E •
838-2056

335 AUSHERMAN DONALD R •
838-9306

336 APARTMENTS
1 SCHWARTZ NORMAN J

839-1884

2 WEST KENNETH A

839-6902

3 BEEDY MICHL F

838-2735

4 BELL JAMES R

839-5866

---4TH ST NW INTERSECTS

405 NO RETURN

406 ENGBERG ELMER E •

838-3850

408 GOGENES LUVERNE K •

839-2285

410 TAYLOR HARVEY A •

838-3269

413 KELLER FRANCIS B

839-2385

414 SORENSEN ANNA M MRS •
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417 VEDVIG MARVIN E
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505 GERMAIN DAVID A •
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524 STEENSTRUP GAIL S MRS
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600 PETERSON ELIAS •
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BERG MELVIN O 838-3663

JORGENSEN FRED C

839-4183

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600% LUNDT ELMER V
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608 SUCKERT LELAND
838-7923

610 RICE ROY A 839-2232

618 RIEBE MABEL E MRS •
839-4016

620 NORDMARK PAUL L •
839-5157

---7TH ST NW INTERSECTS
700 REISHUS GEO A 838-3050

702 FUCHS LOUISE MRS
838-8408

706 LANGORD CLIFFORD A
838-8171

708 FREDRICKSON ARTH C •
838-8607

712 REHOR CELESTINE L MRS
• 838-9346

716 HAPPEL ERNEST H •
839-3941

720 SAILMAN AUG N •
839-1438

JOHANSEN JOHANNES
839-1424

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800 WALSH JAMES L •

839-4848

BSMT HOFER JEFFREY
806 LOVDAHL THOS H •

838-3503

809 JACOBSEN LEURENCE MRS
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812 LYON WM R • 838-5063

813 HARRISON WM S •
839-1721

814 DAHL MANUEL • 838-2908

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826 GORDON ZALMON •
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900 BELINSKEY CAROL MRS

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901 HIGGINS VERLIN L
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909 HAMILTON BERNARD
838-4473

910 VALOR T ALFON •
838-3071

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839-4484

915 SALD ARNE A • 838-1970

916 BERGEM RAYMOND M •
838-3561

BSMT VACANT
917 BACON GRACE V MRS •
838-3070

BSMT ADAMS WM 838-5281

920 ALMA ARNOLD T •
838-4990

921 VACANT

1000 GILTNER SIGNE B MRS •
839-4950

1001 MACKLEY JOSEPH R •
838-1935

1004 CARLSON HAMPHEN C •
838-1972

HOLEN GERALD L
838-5601

1005 BACH LLOYD R •
839-1244

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1124 RIVIERA LOUNGE TAVERN
838-9932

1212 UNDER CONSTN

1220 UNDER CONSTN

1224 OAK PARK WHITE DRUG
838-0388

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CLEANERS 838-0104

1300 OAK PARK SHOPPING
CENTER

ALLEN REALTY 838-0922

1302 R & L MAYTAG HOME
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838-7571

1310 BIG DOLLAR REDEMPTION
CENTER PREMIUM STORE

838-4104

PIGGLY WIGGLY (BR)
GROS 838-5458

1314 AMERICAN FAMILY
MUTUAL INS CO

838-7078

ARNIE'S PFAFF SEWING
CENTER 839-2503

1400 HYLANDER CENTER SELF
SERV LONRY 838-9092

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1500 OAK PARK THEATRE

838-6008

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838-1512

TIME SHOP WTCH REPR
838-1148

1500B ARTISTRY IN HAIR
FASHION 838-1432

ARTISTRY WIG SALON
838-1409

1500C MUTUAL & UNITED OF
OMAHA INS 839-3682

OSBORNE-MC MILLAN
ELEVATOR CO (DIST

OF) GRAIN 838-5475

1500A SHEA'S RADIO SERVICE
838-1512

1506 FRYE JACOB • 838-0808

1507 WEBSTER CHRISTINE MRS
• 839-1471

1508 NORTHWEST 66 SERVICE
GAS STA 838-3955

MERCK MICHL •
839-3976

1509 GROSCHKE HARRY R •
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1900 VALKER ROAD

TEL. TEMPLE 6-8120

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4TH NE—Contd

1300 Vacant
1301 Bakeman Chas J
TE6-6247
1305 Riehm John F ©
TE8-0191
1309 Smith Gerald D TE3-7175
1310 Doerr Masonry Co
TE7-6220
Doerr Alan L ©
TE7-6220

20

4TH AVENUE NORTHEAST—

From Main east to 9th, 1
north of Mouse River at
Main

11 Kinyon Willard ©
Kinyon Lawrence H
TE5-2286

1st NE intersects

109 Muhs Agnes Mrs TE3-5152

113 Lindquist Allan A
TE5-2141

117 Scheltens Ronald E
TE2-6164

2d NE intersects

203 Oen Andrew A ©
TE5-6296

207 Zodrow Wm H © TE4-2197
209 Anderson Robt E
TE2-0165

Bob's Drywall Service
TE2-0165

211 Fox Chas jr TE3-9285

3d NE intersects

304 Filler Garage TE3-9252

304a Balerud Ben © TE6-0282

308 Western Sht Mtl Co
TE5-3120

Northern Mach

TE2-3239

315 Minot Grain Inspection
TE2-3134

400 Minot Welding Co
TE3-9213

401-03 Cole Petroleum Co whol

TE3-6206

404 Faine John © TE3-3282

Walter Robt TE3-3274

433 Allied Contractors Inc

TE8-6300

436 Farmers Union Central
Exch oil and auto
parts TE6-9161

506 Bounting Alfred S
TE8-5166

506½ Wertiko Field TE7-5146

508 Bristol Theo

510 Liberty Gro & Meat Mkt

TE3-4119

510½ Vacant

6th NE intersects

600 Liberty Tavern beer
TE5-9224

601-721 Internatl-Harvester
Co (whse)

605 Mobil Oil Co bulk sta
TE3-8212

614 Evans Transfer Inc
TE2-8202

Bingenheimer Warehouse
stge TE4-9220

7th NE intersects

8th NE intersects

801 Minot Fuel Co TE3-2190

826 Robinson Insulation Co
whol TE2-4191

9th NE intersects

15

4TH NORTHWEST—From GNRy

north to 9th av, 4 west of
Main at 4th av

1st av NW intersects

101a Lee Nellie

rear Pickett Chelsea E

TE5-8184

102 Darl Apartments

TE5-6126

Apartments:

A Johnson John A

TE3-3203

B Ludemann Thos H

TE5-3222

C Masteller Clyde V

TE4-4275

D Masteller Clyde V

TE4-4275

D O'Neil Raymond E

TE8-0205

E Baker Darl L © TE5-6126

rear Fox Carl TE3-6138

Street continued

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123 1st S.W.

PHONE TEmple 6-9164

49

4TH NW—Contd

105 Skogstad Carl ©
TE2-3202

Whitaker Roy A
TE8-3285

108 Kinsella Beata Mrs ©
TE4-4161

111 Doyle Lawrence J ©
TE2-7197

111½ Christianson Gust A
TE4-7185

112 Perekrestenko Geo E
TE6-6146

115 Husby Lyell M ©
TE3-0291

115½ Ring Myron L

116 Rein Albert J ©
TE3-3291

2d av NW intersects

200 Blair Lucille Mrs ©
TE3-3180

201 Berdine Henry G ©
TE3-7158

204 Bowman Alice L Mrs ©
TE4-6177

205 Skarsgard Clara S Mrs ©
TE2-5146

206 Kossan Peter © TE2-8255

209 Wood John K © TE4-4165

214 Stevens Dagmar Mrs ©
TE6-2235

Adkins Jerry W

bsmt Oakland Clarence

215 Peterson Dorothy C Mrs ©

219 Kruger Robt D © TE7-4229

221 Snyder Mary Mrs ©

TE5-2261

225 Unruh Milton D TE6-7254

3d av NW intersects

301 Gourley Ray

303 Sevland Ole M © TE4-9132

Sevland's Spraying

Serv TE4-9132

305 Mona Reuben E

TE6-5120

309 Spankie Jas R TE6-4222

313 Soberg Jos A TE2-3290

315 Hunter Ottawa I TE5-7204

316 Vacant

320 Fletcher Linda L

Quinlen Tillie Mrs

TE2-9271

323 Irwin Roy W TE8-5140

4th av NW intersects

405 Apartments

1 Fahy Mary J 837-7157

2 Boschert Rose G Mrs

TE4-9237

3 Hagen Geo R TE5-4191

4 Shanaver Jerry H

TE8-3174

5 Engberg Elmer TE2-7150

Street continued

407 Klimpel Emma Mrs ©

TE5-8168

414 Berg Milton A TE3-6258

416 Jacobson Larry M

TE7-5177

416½ Schwoppe Neil E TE3-4211

418 Woodiwiw Floyd C ©

TE3-2255

419 Apartments

A Dickey Reese M TE5-4194

B Tryhus Sylvia Mrs

833-5190

C Aton Almyra V Mrs

TE2-7127

D Krueger Je ssie E Mrs

834-5180

5 Tryhus Sylvia I Mrs

TE3-5190

Street continued

422 Witt Ehtel C Mrs ©

TE4-2139

Vick Lloyd J TE8-1117

424½ Slotsve Leo H ©

426 Bold Howard H ©

TE8-4355

426½ Brodell Jacob ©

TE4-3143

427 White Vern E ©

TE3-3175

428 Pierson Clayton E

TE6-8160

Mouse River

5th av NW intersects

503 Thomas Yates © TE3-4172

505 Storbeck Henry W ©

TE3-4272

506 Snette Ingel O ©

TE6-4266

509 Ganskop Irene Mrs

TE5-2159

17



Johnson Chevrolet Co.

WRECKER SERVICE

100-104 2d S.W.

Minot Temple 6-1171

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50

4TH NW-Contd

- 510 Hoppman Emily Mrs @
TE3-4255
516 Landis Albert L @
TE2-8249
520 Wagner John E TE5-8136
6th av NW intersects
600 Hill Lloyd TE2-4131
601 Lincoln Park
604 Hill Bertha Mrs @
TE2-7145
608 Jordahl Earl A @
TE2-4182
Lincoln av intersects
7th av NW intersects
704 Ystes Chas E TE7-0213
705 Flammang Leo J @
TE2-4181
710 Serdahl Donald H
TE7-5160
715 Morey Eva V Mrs @
TE4-7207
716 Vacant
719 Tau Kappa Epsilon
Fraternity
TE2-2100
725 Lierbo Alvin M @
TE3-5249
8th av NW intersects
800 Johnson Ella G Mrs @
TE4-7217
803 Gay Marlin L TE5-7288
804 Sperry Gladys Mrs @
TE2-4118
805 Matteson Roy I @ 837-6269
807 Aboltins Raimunds O @
TE5-6172
9th av NW intersects

4TH NORTHWEST-From
Anderson dr north to city
limits

- 20th av NW intersects
2000 Berry Joseph TE3-5132
2001 Hugh Leroy TE5-5159
2002 Ridgeway Robt J
TE7-0138
2003 Alexander Howard
TE6-7269
2004 Henry Chas B
2006 Whorten Wm M

- 2008 Glaason David TE8-6097
2010 Nash Jimmy D TE4-9285
2011 Apartments
1 Griffin Jas K TE7-0130
2 Sjol Dennis A TE8-5194
3 Treacy Wm TE8-6397
4 Kennedy Richd C TE6-6217
Street continued
2012 Vacant
2014 Vacant
2015 Apartments
1 Danhof Roger J TE7-0156
2 Pope Ted
3 Greenwood Robt B
TE5-6157
4 Slotsve Ronald E TE7-7294
Street continued
2018 Apartments
1 Polglaze Edw TE6-6279
2 Patterson Forrest E
TE8-5284
3 Larson Tyler B TE8-4151
4 Pfau Harvey A TE8-4419
Street continued
2019 Apartments
1 Welty Noel D TE7-4292
2 Horn Wm TE8-6557
3 No Return
4 Merkel Carl G
Street continued
2026 Apartments
1 Zeller Gordon H 836-2155
2 Johnson Martin A
TE7-9119
3 Price Harry TE8-3274
4 Maragos Ted TE6-3234
Street continued
2029 Apartments
1 Walton Don F TE3-6163
2 Vacant
3 Baxter Leland O TE6-5142
4 Albins Billy F 832-2598
Street continued
2032 Apartments
1 Nichols Alf R TE8-4537
2 Whisler Larry D
3 Makcey Horace TE8-0169
4 Brintnoll Wm E TE2-3198
Street continued
2035 Apartments
1 Dalthorp Chas H TE8-1279
2 Kaseman Edw TE2-8169

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TEL. Temple 4-2136

Gate City Savings

300 1st St. SW

and LOAN ASSOCIATION

Tel. Temple 2-1171

51

4TH NW-Contd

- 2035 Apts-Contd
3 Schmalz Bennie J TE7-9250
4 Dobson Shirley TE7-3153
Street continued
2038 Apartments
1 Christy Ray TE7-3132
2 Watson Jesse V jr
TE4-8294
3 Albins Dennis
4 Becker Robt T TE8-5860
Street continued
2041 Apartments
1 Barrows Barbara Mrs
TE8-5614
2 Jagd Robt W TE2-0202
3 Neperud Jerome J
TE8-6338
4 Galindo Raymond TE4-4136
Street continued
2046 Apartments
1 Lewis Raymond TE8-1125
2 Wentz Ronald R TE4-2211
3 Adams Wayne TE7-5233
4 Robbins Wm
Street continued
2047 Apartments
1 Barrow Nancy J 838-4127
2 No Return
3 Zieour David W TE5-4167
4 Kallias Richd J 838-0274
Street continued
2400-2502 Northdale
Apartments
2400 Apartments
1 Roberts Larry G
TE6-6264
2 Maaher Wm J TE7-4103
3 Owens Donald J
TE5-5266
4 Ketchum Richd W
TE6-8204
5 Bennett H G TE2-6134
6 Johnson Jerome P
TE4-6232
7 Brandt Evelyn M Mrs
8 Stewart James E
TE7-5155
Street continued
2410 Apartments
1 Marshall Robt A TE6-6196
2 Smith Ralph L TE3-2215
3 Yeakley Joe L TE8-5228

- 4 Shultz Roy
5 Cavanaugh Gordon I
TE6-8213
6 Peterson Ronald A
TE7-5249
7 Nygard Carl G TE2-8283
8 Nalle Richd G TE8-5275
Street continued
2420 Apartments
1 Taylor Harvey J TE6-8151
2 Carroll Tyrie G TE7-0153
3 Parker Robt TE7-5133
4 Taucher Dean A
TE8-3230
5 Vacant
6 Halstead Earl W
TE8-4916
7 Napolitano Pat TE6-8273
8 Scerbo Frank J TE8-4283
Street continued
2502 Apartments.
1 Sherwood Stanley W
TE8-4556
2 Hassey Thos E TE7-7150
3 Steele Michl T TE7-5197
4 Paxton Warren K TE8-0238
5 LaBarbara Vincent P
6 Jackson Harold G
TE7-5272
7 Newman John D TE8-5547
8 Hoglund Carl M TE3-4286
2512 Flemel Thos E TE8-4852
2525 Schultz Kenneth TE7-0292

- 17
4TH AVENUE NORTHWEST -
From Main west to limits, 4
north of Central av at 6th
12 Callies Rueben W @
TE2-6195
12½ Haerber Robt
14½ North Robt E TE4-6227
20 Dakota Luth Academy
Dormitory
TE2-3139
24 Vacant
25 Norsby Benj R TE6-0160
25½ Jellum Robt D
29 Kelly Wm H TE8-4482
Rystrom Robt L
TE8-0289
bsmt Freeman Clarence E
TE6-8128

ATLAS

Sand & Gravel Inc.

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MINOT, NORTH DAKOTA



DIAL
TEMPLE
8-6121

Where
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This
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MINOT Insurance Agency

Inc.

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OF MINOT
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Insurance
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of All Kinds

26 N.
MAIN



TE mple
8-2127

HOLMES ELECTRIC CO., Inc. Electrical Contractors

10 2d N.E.

DIAL TE mple 2-3115 and 4-3119

52

4TH AV NW--Contd

1st NW intersects

100 Hamilton David H

TE7-7129

100 1/2 Stach Balzer TE8-0106

102 Logen Donald O TE3-8229

102 1/2 Nelson Calmer J

TE7-7228

103 Garness Hardie J ©

TE2-6191

105 Hoar Helen G TE4-6202

106 Krefting Arth © TE2-6175

107 Crawford Blanche Z Mrs

TE2-6275

110 Evenson Maynard M ©

TE3-9149

Locken Violet

Whorley Richd

TE7-6203

111 Struckness Melvin T ©

TE3-0208

114 McIntosh Geo A ©

TE2-4198

Walders intersects

2d NW intersects

Mouse River

15

304 Our Redeemer Luth Church

TE7-9244

308 Rogness Rollin W Rev

TE7-9244

310 Fiskum Anne Mrs ©

TE5-4150

311 Rentschler Elmer ©

TE4-5290

312 Bullock Florence L Mrs ©

TE2-8256

315 Warke Anna M Mrs ©

TE3-7263

bsmt Dye Clinton E

316 Connole Garth D ©

TE2-7153

317 Peterson Leonard E ©

TE3-3242

Hayes Edna Mrs

TE7-0174

bsmt Stadler Marietta M

837-7224

319 Warke Andrew G

TE4-7208

bsmt Horvat Norman A

322 Wentz Leona A ©

324 Leigh Clarence

838-6047

329 Hanson Petra B Mrs ©

TE4-7271

330 Peterson Sewall E ©

TE2-8156

335 Hutmacher Wanda Mrs

TE6-7296

336 Johnson LaVonne R Mrs

838-4808

Witkop Richd E jr

836-5198

4th NW intersects

406 Thorson Wm C ©

TE4-8230

B & G Automotive Sup

Co TE4-8230

408 Gorgenes Luverne K ©

TE4-8185

410 Castleman Violet E Mrs ©

TE4-4150

413 Keller Francis B ©

834-8285

414 Sorensen Paul C ©

TE2-3193

417 Odland Clifford ©

TE4-7242

419 Vacant

422 Knudson Sterling A ©

TE2-6214

426 Flanagan Patk J

TE7-4260

Wright Gillis H

TE5-6197

Jeffery Gary N

TE8-0236

429 Fitzmaurice Thos C ©

TE4-5174

5th NW intersects

504 Wallin Ralph C TE6-5141

510 Livingston Ernest C ©

TE8-0266

524 Steenstrup Gail S Mrs ©

TE2-0166

600 Berg Melvin O TE2-6163

Peterson Elias ©

TE3-4100

600 1/2 Lundt Elmer V TE5-5262

608 Frunz Richd D TE5-2188

610 Collom Norman F 837-0282

618 Riebe Mabel E Mrs ©

TE5-7216

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Minot, North Dakota



TE mple 8-7024

53

4TH AV NW--Contd

620 Olson Howard S ©

TE5-4202

7th NW intersects

700 Reishus Geo A TE2-4250

702 Shearer Jas R 834-7177

706 Brannan Leo M TE6-6229

708 Fredrickson Arth C ©

TE3-3207

712 Norderhus Lance A ©

833-0271

716 Happel Ernest H ©

TE4-0265

720 Sailman Aug N. ©

TE4-4238

724 Johansen Johannes

8th NW intersects

800 Walsh Jas L © TE6-2248

806 Lovdahl Thos H ©

TE2-5203

809 Jacobsen Lawrence Mrs ©

TE4-2230

812 Lyon Wm R © TE8-5063

813 Wilkins Evelyn G Mrs ©

TE4-6121

814 Dahl Manuel © TE3-3108

SchAAF James TE5-6213

818 Linington Victor A ©

TE4-9177

822 Norem Grant M ©

TE3-3208

826 Gordon Zalmon ©

TE2-2182

9th NW intersects

900 Momerak Andrew ©

TE2-2282

Belinsky Carol R Mrs

TE5-7244

901 Downes Allan J TE8-1170

902 Lindsey Chas G TE5-2245

905 Hanson Henry M ©

TE2-7237

905 Hanson Mae E Mrs ©

833-5237

909 Watland Melvin O

TE3-8129

910 Valor Talfon © TE2-4271

915 Salo Arne A © TE2-4170

916 Bergem Raymond M ©

TE2-5261

Sellers Fred D TE8-1108

917 Bacon Grace V Mrs ©

TE2-4270

bsmt No Return

920 Carlson Gary H ©

TE5-4216

921 Owenson Josie M Mrs ©

TE2-7184

1000 Giltner Arth T ©

TE6-3150

1001 Mackley Jos R ©

TE2-4135

1004 Carlson Hamphen C ©

TE2-4172

Janz Harriet Mrs

TE2-4238

1005 Bach Lloyd R ©

TE4-3244

1124 Rivera Lounge

TE5-9232

Mouse River

1300 No Return

15th NW intersects

21

1506 Frye Jacob © TE4-2108

1507 Webster Christine Mrs ©

TE4-4267

1508 Merck Michl ©

TE5-7176

1509 Grosche Harry R ©

TE4-9195

1520 Northwest "66" Serv gas

sta TE2-7255

16th NW intersects

23

1601 Northwest Texaco gas sta

1602 Oak Park Shopping Center

Oak Park ABC Clns

TE7-0169

Oak Park Barber Shop

TE7-4193

Oak Park Dairy

TE7-4225

Oak Park New Arcade

TE6-5128

Pop's Cleaners

TE8-4415

Farmers Union Grain

Terminal Assn

track ofc

TE6-9171

1609 Super Fair Food Store

No 2 TE4-9120

INSURANCE

E. H. HAPPEL - Tel. TE mple 4-5265

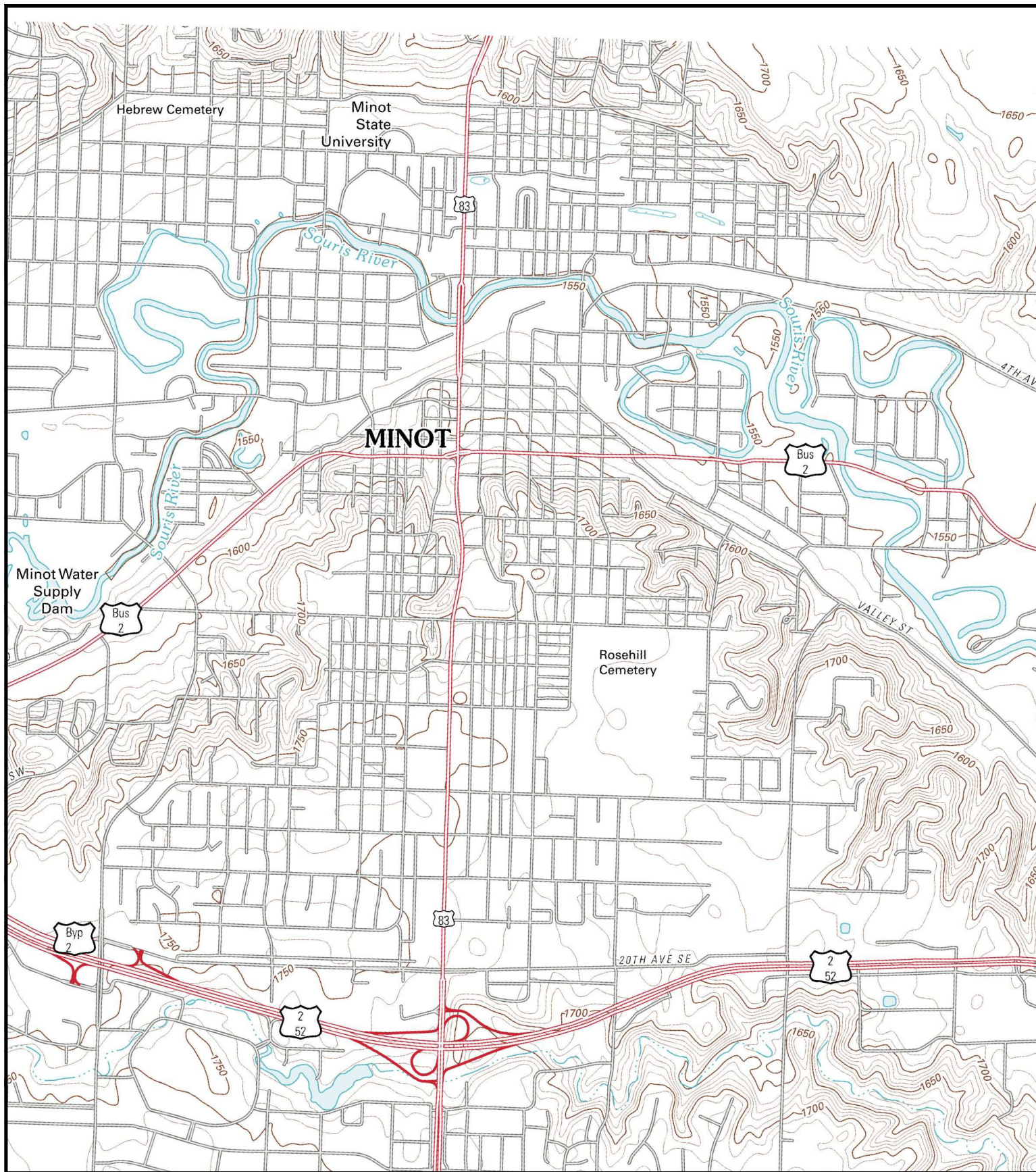
Parcel Map

3/5/2015

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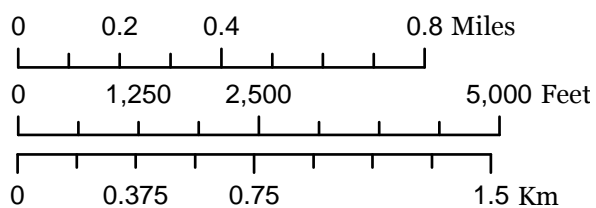


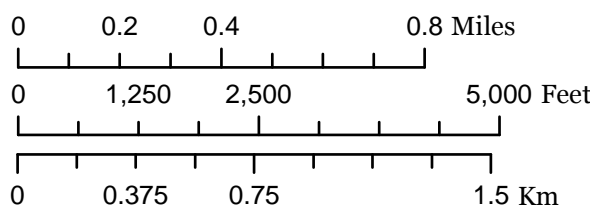
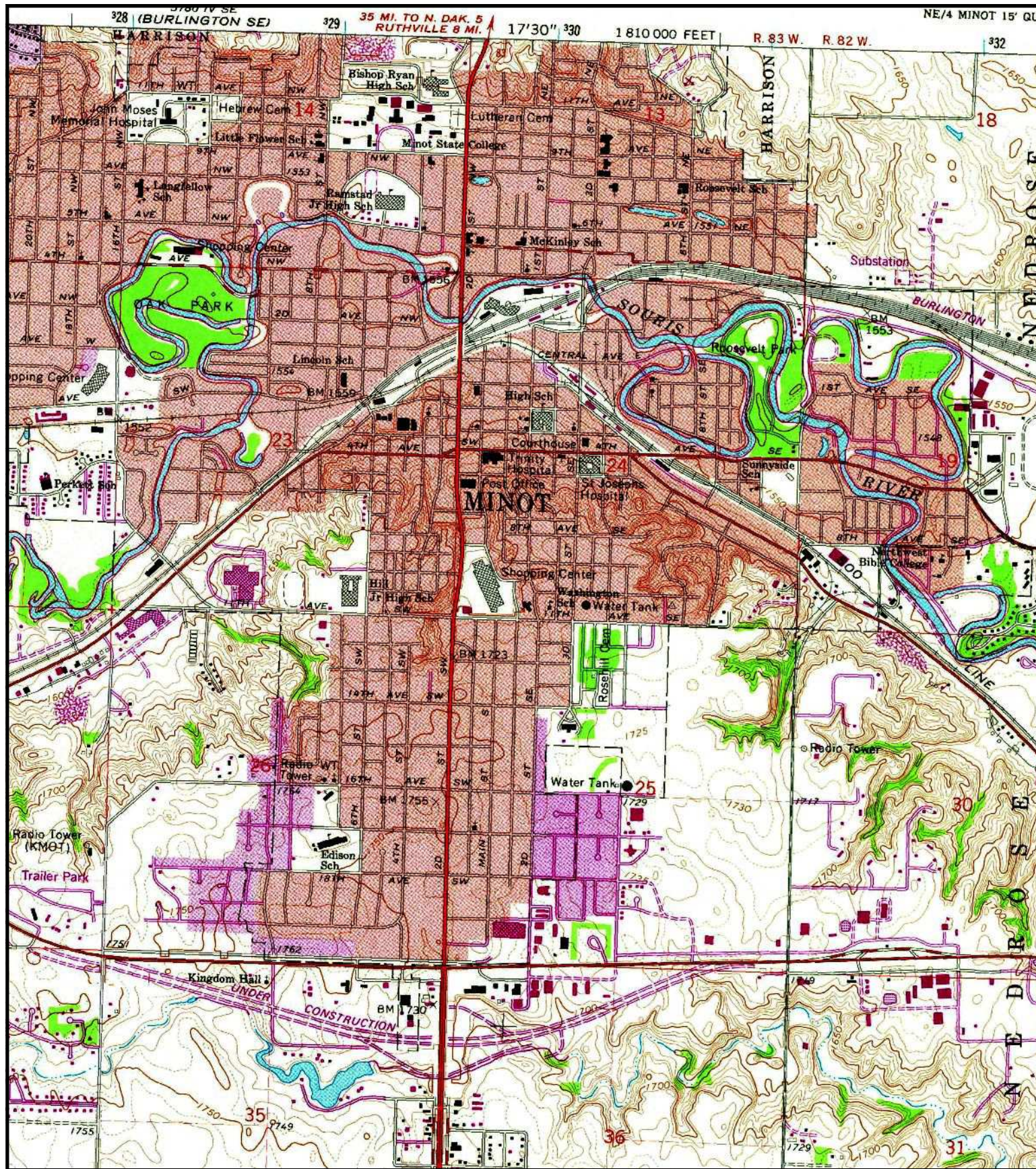
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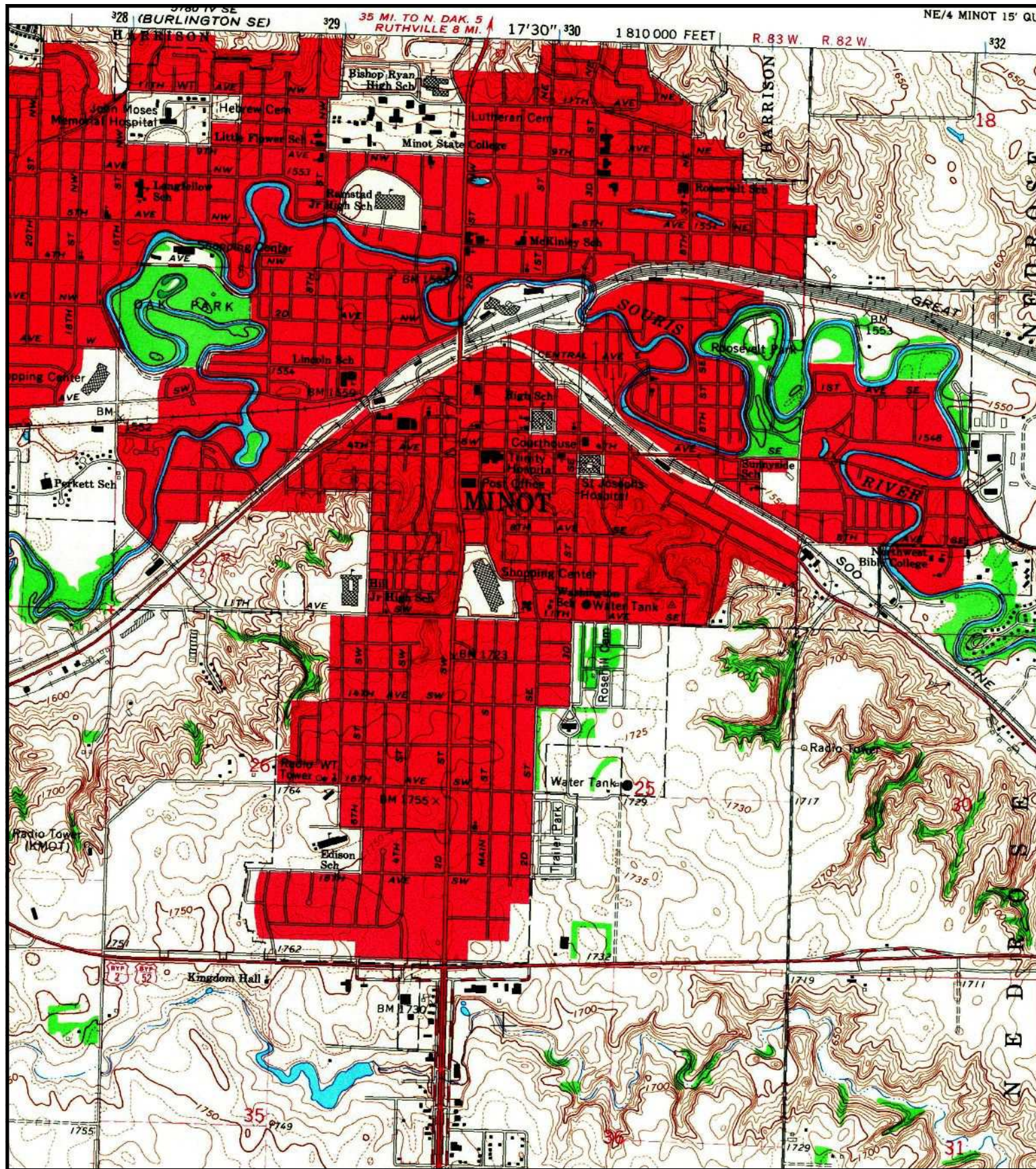


2011

Minot, North Dakota Quadrangle
USGS 7.5 Minute Topographic Map

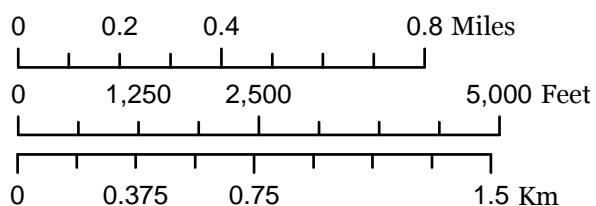


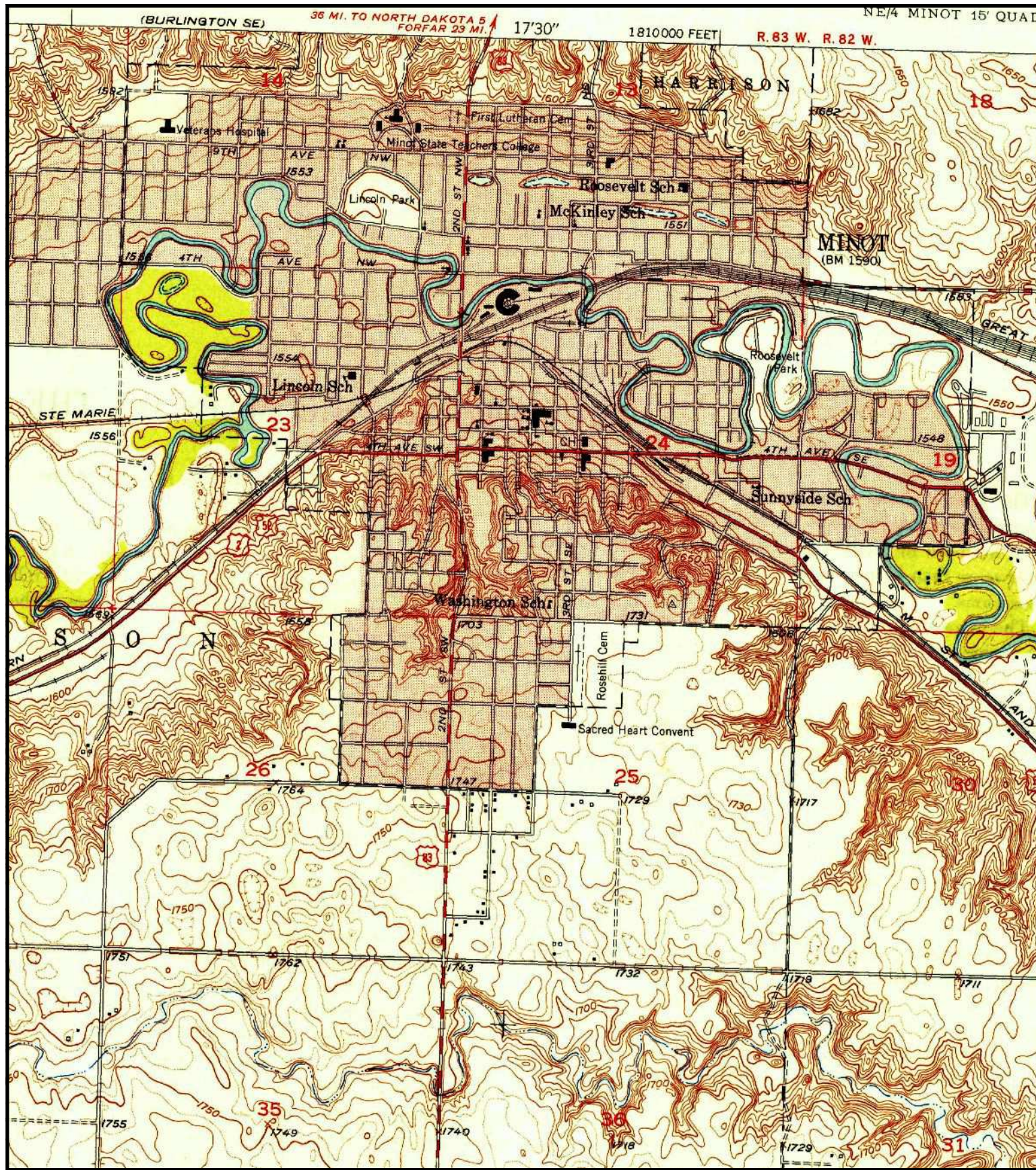




1966

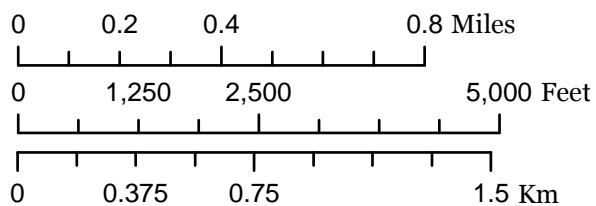
Minot, North Dakota Quadrangle
USGS 7.5 Minute Topographic Map





1949

Minot, North Dakota Quadrangle
USGS 7.5 Minute Topographic Map





Appendix C

Regulatory Reports

reports are available on request

Appendix D

Site Visit Photographs

Appendix D Property Inspection Photographs

Fourth Avenue Floodwall

Minot, ND

3/17/2015 and 5/17/2015

Photo #	Comments
17-Mar-15	
1	Vent pipe near Broadway Bridge
2	Broadway Bridge, looking W.
3	Downstream view from Broadway Bridge.
4	Sammy's Pizza on the NE corner of Broadway and 4th Ave. NW.
5	Home Sweet Home Gift Shop, 103 4th Ave. NW.
6	Looking upstream from Gift Shop parking lot.
7	Derby car enthusiast's garage area from alley (414 1st St. NE).
8	Generator west of Lowe's Printing, looking NE from alley.
9	No leaks or staining under generator.
10	Church on the NE corner of Broadway and 5th Ave. NW.
11	Looking downstream from Gift Shop parking lot.
12	Looking upstream from 3rd St. SE Bridge.
13	Lowe's Printing at 129 5th Ave. NW.
17-May-15	
14	Electrical box between Broadway and 3rd St. NW.
15	Electrical box on the corner of Broadway and 4th Ave. NW.
16	Philotechnics Ltd. Storefront.
17	Body Brite and E-cig storefronts.
18	Giscon building in forefront, Body Brite, E-cig, and Philotechnics up the street.
19	Broadway bridge. Facing ESE.
20	Broadway bridge. Facing ESE. (2)
21	Stormwater drain on S side of Mouse River west of Broadway bridge.
22	Building between Giscon and Body Brite. Facing W.
23	Building between E-cig and Philotechnics. Facing W.
24	Drum and plastic container S of building between E-cig and Philotechnics.
25	0
26	Transformer S of building NW of Giscon.
27	Souris Valley Feed and Seed.
28	Corner of 3rd St. NE and 4th Ave. NE. Facing NE.
29	Building at corner of 5th Ave NE and 3rd St. SE. Facing NE from cul-de-sac
30	Approx. 20 portable heaters in fenced in area. Facing E from W side.
31	0
32	Fenced in area from SE side.
33	0
34	Fenced in area from NW side.
35	Entrance to fenced area (NW side).
36	Parking lot of Souris River Designs from N facing S.
37	Taxi 9000. No obvious maintenance taking place outside.
38	All Washed Up Laundromat facing NNW.
39	Leased commercial garages/shops. Facing NE.
40	Transformers on N Walders St. Facing S.
41	Electrical box on 3rd St NE cul-de-sac. Facing SW towards 3rd St SE bridge.

17-Mar-15



Photo 1: Vent pipe near Broadway Bridge



Photo 2: Broadway Bridge, looking W.



Photo 3: Downstream view from Broadway Bridge.



Photo 4: Sammy's Pizza on the NE corner of Broadway and 4th Ave. NW.

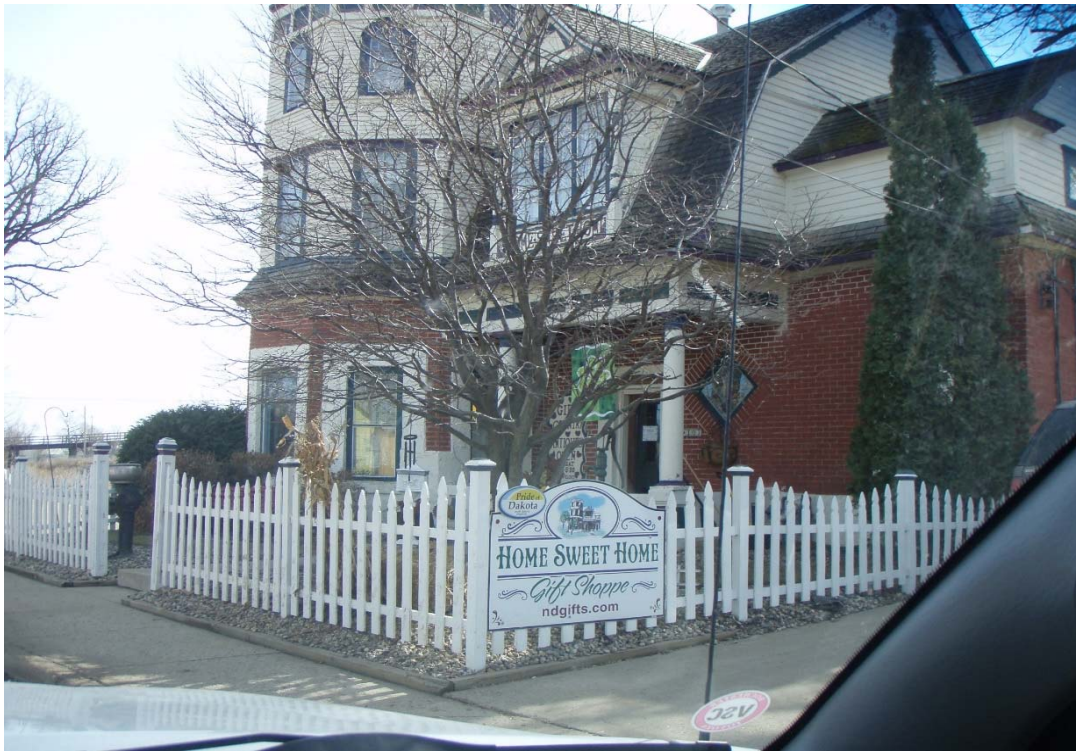


Photo 5: Home Sweet Home Gift Shop, 103 4th Ave. NW.



Photo 6: Looking upstream from Gift Shop parking lot.

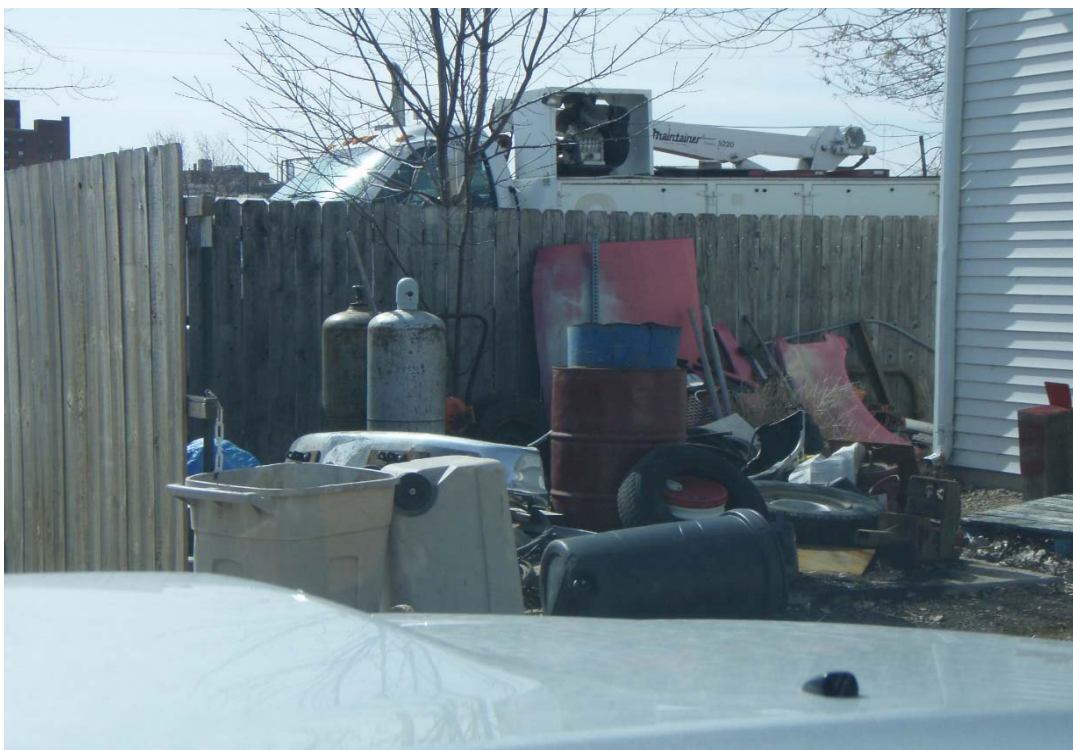


Photo 7: Derby car enthusiast's garage area from alley (414 1st St. NE).



Photo 8: Generator west of Lowe's Printing, looking NE from alley.



Photo 9: No leaks or staining under generator.

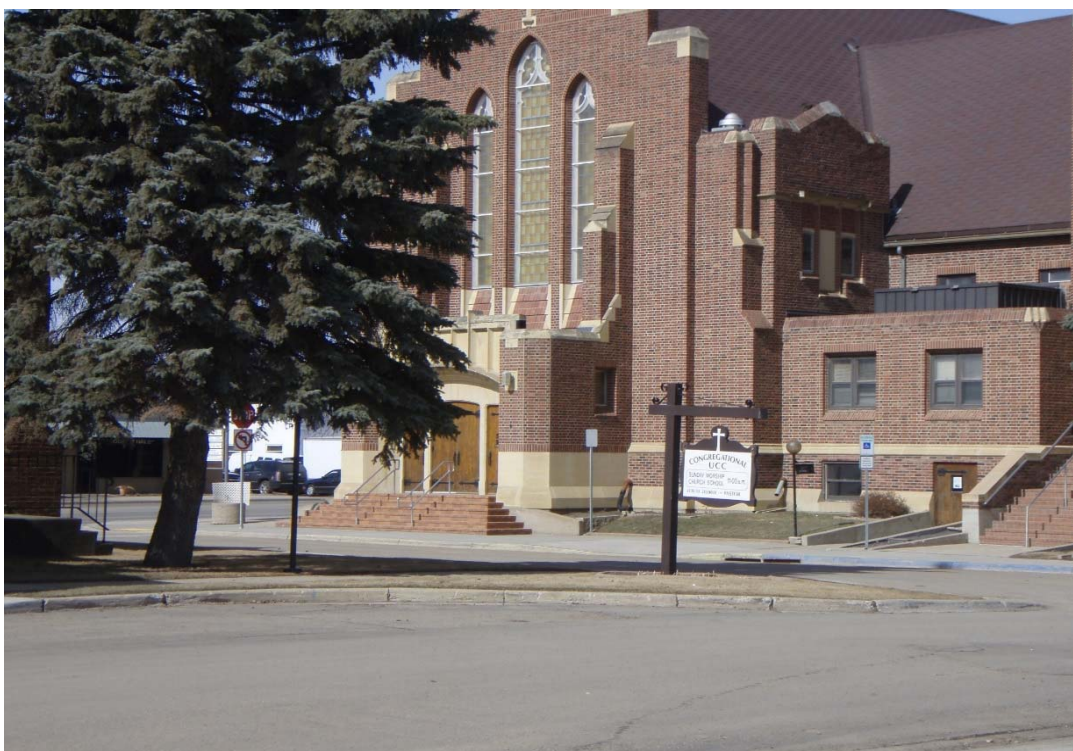


Photo 10: Church on the NE corner of Broadway and 5th Ave. NW.



Photo 11: Looking downstream from Gift Shop parking lot.



Photo 12: Looking upstream from 3rd St. SE Bridge.



Photo 13: Lowe's Printing at 129 5th Ave. NW.
17-May-15



Photo 14: Electrical box between Broadway and 3rd St. NW.



Photo 15: Electrical box on the corner of Broadway and 4th Ave. NW.



Photo 16: Philotechnics Ltd. Storefront.



Photo 17: Body Brite and E-cig storefronts.



Photo 18: Giscon building in forefront, Body Brite, E-cig, and Philotechnics up the street.



Photo 19: Broadway bridge. Facing ESE.



Photo 20: Broadway bridge. Facing ESE. (2)



Photo 21: Stormwater drain on S side of Mouse River west of Broadway bridge.



Photo 22: Building between Giscon and Body Brite. Facing W.



Photo 23: Building between E-cig and Philotechnics. Facing W.



Photo 24: Drum and plastic container S of building between E-cig and Philotechnics.



Photo 25: W side of Giscon building. No concrete washouts.



Photo 26: Transformer S of building NW of Giscon.



Photo 27: Souris Valley Feed and Seed.



Photo 28: Corner of 3rd St. NE and 4th Ave. NE. Facing NE.



Photo 29: Building at corner of 5th Ave NE and 3rd St. SE. Facing NE from cul-de-sac



Photo 30: Approx. 20 portable heaters in fenced in area. Facing E from W side.



Photo 31: Fenced in area from SW side. Many vehicles for sale.



Photo 32: Fenced in area from SE side.



Photo 33: Fenced in area from NE side.



Photo 34: Fenced in area from NW side.



Photo 35: Entrance to fenced area (NW side).



Photo 36: Parking lot of Souris River Designs from N facing S.



Photo 37: Taxi 9000. No obvious maintenance taking place outside.



Photo 38: All Washed Up Laundromat facing NNW.



Photo 39: Leased commercial garages/shops. Facing NE.



Photo 40: Transformers on N Walders St. Facing S.



Photo 41: Electrical box on 3rd St NE cul-de-sac. Facing SW towards 3rd St SE bridge.

Appendix E

Information Resources

Appendix E Information Resources Minot, North Dakota

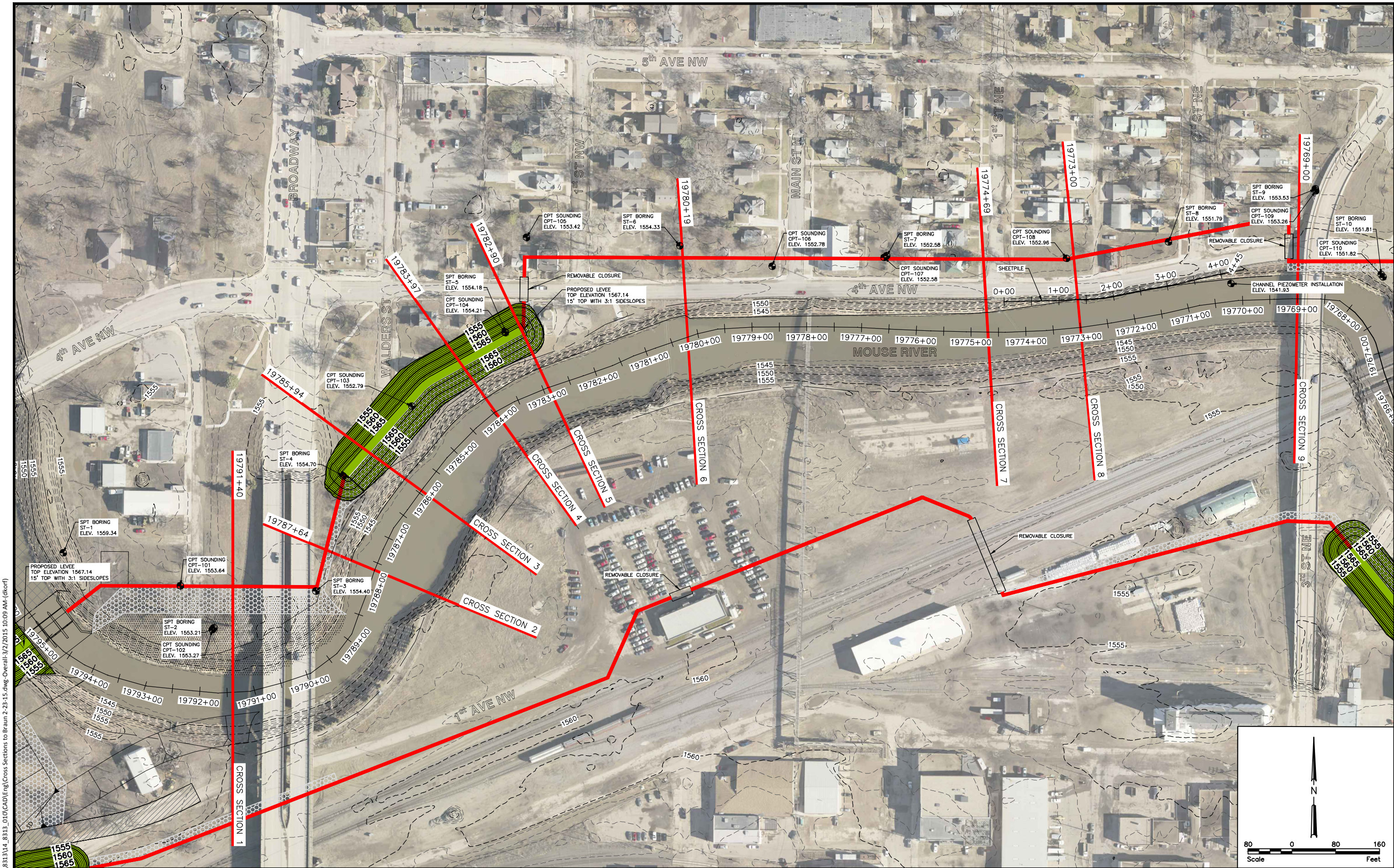
The following resources are numbered for use as references.

REF#	Resource	Years
Primary Resources		
1	U.S. Geological Survey Topographic Maps	1928, 1949, 1966, 1979, 2011
2	Historical Fire Insurance Maps	1904, 1907, 1913, 1918, 1926
3	Aerial Photographs	1938, 1946, 1953, 1961, 1969, 1979, 1991, 1995, 2003, 2009, 2014
4	Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/	Accessed March 11, 2015
5	Cvancara, A.M.1976, Report of Investigation No. 57, Geology of the Cannonball Formation in the Willison Basin, with References to Uranium Potential. North Dakota Geological Survey.	1976
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7	Reverse City Directories	1963, 1968, 1973, 1978, 1984, 1988, 1993, 1997, 2004, 2009, 2013
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Regulatory Status Resources		
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Interviews		
10	Dan Jonasson, City of Minot Public Works Director, (701) 857-4112	March 23, 2015
Inspection		
11	Barr Engineering Company: Amanda Strahm; 3/17/15; 40 degrees Fahrenheit and partly cloudy, and May 17, 2015	N/A
Additional Sources		
12	Braun Intertec. January 2015. <i>Geotechnical Evaluation 4th Avenue NE – Phase I, Minot North Dakota</i>	2015
13	ND Water Commission Mapservice. Available online at http://mapservice.swc.nd.gov/	Accessed April 6, 2015

REF#	Resource	Years
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15	City of Minot. March 22, 2015. Available on-line at http://www.minotnd.org/	Accessed March 22, 2015
16	U.S. Army Corps of Engineers. 1992. Hazardous, Toxic and Radioactive Waste (HTRW) Guidance for Civil Works Projects.	1992
17	City of Minot Zoning Map. Available online at: http://www.minotnd.org/pdf/minotzoning.pdf . Accessed March 23, 2015	March 23, 2015
18	Bluemle, John P. 1989. Geology of Renville and Ward Counties, North Dakota, Bulletin 50 Part 1. North Dakota Industrail Commission Geological Survey Division. County Groundwater Studies 11 – Part 1 and Plate 1.	1989
19	North Dakota State Water Commission Available on-line at http://www.swc.nd.gov/	Accessed on March 30, 2015
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Appendix F

Braun Intertec Boring Logs



H:\Fargo\JBN\8300\8313\14_8313_010\CAD\Eng\Cross Sections to Braun 2-23-15.dwg Overall: 3/2/2015 10:09 AM (-dkorf)

No.	Revision	Date	By



Fargo	Drawn by DEK	Date 2-23-15
P: 701.237.5065 F: 701.237.5101	Checked by JDB,KAL	Scale AS SHOWN

PRELIMINARY 4TH AVE NW CONCEPTS
MOUSE RIVER ENHANCEMENT FLOOD PROTECTION
CITY OF MINOT, NORTH DAKOTA

PROPOSED SITE PLAN
GEOTECHNICAL LAYOUT
PROJECT NO. 8313-010

SHEET
1 of 3

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\X PROJECTS\2014\09643.GPJ BRAUN_V8 CURRENT.GDT 3/9/15 13:35

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota					BORING: ST-1 LOCATION: See attached sketch.				
DRILLER: W. Barrett		METHOD: 3 1/4" HSA, Autohammer			DATE: 1/14/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes	
1559.3	0.0	FILL	FILL: Lean Clay, trace roots and Gravel, brown, frozen.					An open triangle in the water level (WL) column indicates the depth at which groundwater was observed while drilling. A solid triangle indicates the groundwater level in the boring on the date indicated. Groundwater levels fluctuate.	
1555.3	4.0	FILL	FILL: Silty Sand, fine-grained, with clods of Topsoil or other organic material, brown mixed with black, moist.	21		15	64		
1552.3	7.0	FILL	FILL: Clayey Sand, trace Gravel, scattered fibers near lower boundary, brown to dark brown, moist.	5					
		FILL		31					
				6				DD=94.7 pcf LL=25 PI=2	
1544.3	15.0	ML	SILT, with lense of Lean Clay, brown and gray, wet, medium. (Alluvium)	8		27	55		
1541.3	18.0	SM	SILTY SAND, fine-grained, gray, waterbearing, very loose to loose. (Alluvium)	TW					
		SM		3	▽	33	43		
1536.3	23.0	SM	SILTY SAND, fine-grained, grading to Poorly Graded Sand with Silt, gray, waterbearing, very loose to loose. (Alluvium)	5				15 Gradation attached.	
				3					
				6					
1529.3	30.0	CL	LEAN CLAY, with lenses of Silt, gray, wet, rather soft to medium. (Alluvium)	6		32		DD=92.6 pcf	
				TW					

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\X PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:35

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota						BORING: ST-1 (cont.)					
DRILLER: W. Barrett			METHOD: 3 1/4" HSA, Autohammer			DATE: 1/14/15		SCALE: 1" = 4'			
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes			
1527.3	32.0		LEAN CLAY, with lenses of Silt, gray, wet, rather soft to medium. (Alluvium) (continued)					LL=41 PI=30 *Water not observed to cave-in depth of 20 feet after withdrawal of auger.			
				4							
				5		37					
1520.3	39.0	ML	SILT, gray, waterbearing, loose. (Alluvium)	6				Water not observed to cave-in depth of 18 1/2 feet two days after auger withdrawal. Vibrating wire piezometers then grouted into borehole at 25 and 55 feet.			
1516.3	43.0	CH	FAT CLAY, with lenses of Silt and Silty Sand, gray, wet, medium. (Alluvium)	8							
								LL=30 PI=9			
1511.3	48.0	CL	LEAN CLAY, with lenses of Silt and Poorly Graded Sand, gray, wet, very loose to medium. (Alluvium)	WH/1		29					
				7			93	Gradation attached.			
1501.3	58.0	SM	SILTY SAND, fine-grained, with lenses of Lean Clay, gray, waterbearing, medium. (Alluvium)	12							
1498.3	61.0		END OF BORING.								
			Water observed at 20 feet while drilling.*								

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\X PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:36

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota					BORING: ST-2 LOCATION: See attached sketch.				
DRILLER: W. Barrett			METHOD: 3 1/4" HSA, Autohammer		DATE: 1/14/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes	
1553.2	0.0	FILL	FILL: Silty Sand, fine-grained, trace roots and Gravel, brown, frozen.	5		10	36	Gradation attached.	
1548.2	5.0	FILL	FILL: Silty Sand, fine-grained, brown, moist.	4		4			
				4		9	23	Gradation attached.	
1543.2	10.0	SM	SILTY SAND, fine-grained, with lenses of Silt and Poorly Graded Sand, scattered fibers, brown and grading gray, wet to waterbearing, very loose. (Alluvium)	3		3			
				WH/I					
				3		25	26	Gradation attached.	
1536.2	17.0	SP	POORLY GRADED SAND, fine- to medium-grained, with lenses of Silty Sand, gray, waterbearing, loose to medium dense. (Alluvium)	5	▽ ▼				
				7		23	5		
				13					
1529.2	24.0	CL	LEAN CLAY, with lenses of Poorly Graded Sand, gray, wet, rather soft. (Alluvium)	4		30		DD=93.8 pcf LL=30 PI=10 U _c =574 psf	
1524.2	29.0	ML	SANDY SILT, with lenses of Lean Clay, gray, waterbearing, very loose. (Alluvium)	2		32		LL=28 PI=6	

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\AX PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:36

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota					BORING: ST-2 (cont.) LOCATION: See attached sketch.				
DRILLER: W. Barrett		METHOD: 3 1/4" HSA, Autohammer			DATE: 1/14/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes	
1521.2	32.0								
1520.2	33.0	CH	FAT CLAY, with lenses of Silt, gray, wet, rather soft. (Alluvium)	2					
				5		34		DD=89.1 pcf LL=55 PI=35 k=8.9 E-8 cm/sec	
1514.2	39.0	CL	LEAN CLAY, with lenses of Silt and Poorly Graded Sand, gray, wet, rather soft to rather stiff. (Alluvium)	4		33	70		
				7		38		LL=48 PI=28	
1506.2	47.0	ML	SANDY SILT, gray, waterbearing, very loose. (Alluvium)	3					
1504.2	49.0	CH	FAT CLAY, gray, wet, moist. (Alluvium)	8		27		LL=51 PI=32	
1500.2	53.0	CL	LEAN CLAY, with lenses of Silt, gray, wet, moist. (Alluvium)	6				*Water observed at a depth of 17 feet after withdrawal of auger.	
1495.2	58.0	ML	SANDY SILT, gray, waterbearing, very loose. (Alluvium)	3				Water observed at a depth of 18 feet when rechecked one day after withdrawal of the auger.	
1492.2	61.0		END OF BORING. Water not observed while drilling.*					Boring then grouted.	

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\AX PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:36

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota					BORING: ST-3 LOCATION: See attached sketch.				
DRILLER: W. Barrett			METHOD: 3 1/4" HSA, Autohammer		DATE: 1/15/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes	
1554.4	0.0	FILL	FILL: Sandy Lean Clay, trace Gravel, scattered (presumed) Cobbles, brown mixed with dark brown and gray, frozen to approximately 4 feet then moist.	26					
				12					
				6					
				6					
				6					
1539.4	15.0	ML	SILT, with lenses of Silty Sand, scattered fibers, brown to gray, waterbearing, very loose to loose. (Alluvium)	4	▽				
				5	▼				
1533.4	21.0	SM	SILTY SAND, fine-grained, trace Gravel, gray, waterbearing, loose. (Alluvium)	6			43	Gradation attached.	
				7		20	15		
1528.4	26.0	CH	FAT CLAY, with lenses of Silt and Poorly Graded Sand, gray, wet, rather soft to moist. (Alluvium)	6					
				4		32		DD=88.6 pcf; LL=58; PI=37 P _c =1.4 tsf C _c =0.24 C _r =0.04 e _c =0.90 Phi _{cu} =25.0 deg C _{cu} =338 psf k=4.7 E-8 cm/sec	

Braun Project B14-09643
GEOTECHNICAL EVALUATION
4th Avenue NE - Phase I
Minot, North Dakota

BORING: **ST-3 (cont.)**


LOCATION: See attached sketch.

DRILLER: W. Barrett

METHOD: 3 1/4" HSA, Autohammer

DATE: **1/15/15**

SCALE: 1" = 4'

Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes
1522.4	32.0		FAT CLAY, with lenses of Silt and Poorly Graded Sand, gray, wet, rather soft to moist. (Alluvium) (continued)	6				
1519.4	35.0	CL	LEAN CLAY, gray, wet, moist to rather stiff. (Alluvium)	8				
				9				
						30		DD=93.2 psf LL=43 PI=26 U _c =614 psf
				6				
				7				
				8				*Water observed at a depth of 17 feet after withdrawal of auger.
1496.4	58.0	SP	POORLY GRADED SAND, fine-grained, with lenses of Silt, gray, waterbearing, loose. (Alluvium)	6				Water observed at a depth of 18 feet when rechecked one day after withdrawal of the auger.
1493.4	61.0		END OF BORING.					Vibrating wire piezometer then grouted into borehole at 20 feet.
			Water observed at 15 feet during drilling.*					

(See Descriptive Terminology sheet for explanation of abbreviations)

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(See Descriptive Terminology sheet for explanation of abbreviations)

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Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota					BORING: ST-4 LOCATION: See attached sketch.				
DRILLER: W. Barrett		METHOD: 3 1/4" HSA, Autohammer			DATE: 1/14/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes	
1554.7	0.0	FILL	FILL: Clayey Sand, fine-grained, trace Gravel, scattered bituminous fragments, brown, frozen to approximately 4 feet then moist.						
				74		13	45		
				7					
1547.7	7.0	CL	LEAN CLAY, brown, moist, medium. (Alluvium)	6		20	73		
1545.7	9.0	SM	SILTY SAND, fine-grained, brown, wet, loose. (Alluvium)	5					
1542.7	12.0	ML	SANDY SILT, brown, wet, very loose. (Alluvium)	3					
1539.7	15.0	SM	SILTY SAND, fine-grained, with lenses of Lean Clay, brown to gray, wet to waterbearing, very loose to loose. (Alluvium)	2	▽				
				5					
1535.7	19.0	ML	SANDY SILT, with lenses of Lean Clay, gray, waterbearing, very loose. (Alluvium)	4					
1532.7	22.0	SP	POORLY GRADED SAND, fine- to medium-grained, trace Gravel, gray, waterbearing, very loose to loose. (Alluvium)	2					
				7		26	4		
				10					
1525.7	29.0	CH	FAT CLAY, trace fibers, gray, wet, moist to rather stiff. (Alluvium)	10				DD=93.2 pcf LL=67 PI=44	
						31			

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\AX PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:36

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota					BORING: ST-4 (cont.)				
DRILLER: W. Barrett			METHOD: 3 1/4" HSA, Autohammer		DATE: 1/14/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes	
1522.7	32.0		FAT CLAY, trace fibers, gray, wet, moist to rather stiff. (Alluvium) <i>(continued)</i>					DD=84.3 pcf LL=48 PI=29 P _c =2.2 tsf C _c =0.34 C _r =0.07 e _o =0.99 Phi _{cu} =24.6 deg C _{cu} =298 psf k=5.9 E-8 cm/sec	
				9					
				7					
1514.7	40.0	CL	LEAN CLAY, with lenses of Silt, gray, wet, moist to rather stiff. (Alluvium)	9		36			
				6					
				8				*Water not observed immediately after withdrawal of auger. Water not observed when rechecked one day after withdrawal of auger.	
1501.7	53.0	SM	SILTY SAND, fine-grained, gray, waterbearing, very loose. (Alluvium)	2					
1495.7	59.0	CH	FAT CLAY, with lenses of Silt, gray, wet, rather stiff. (Alluvium)	9					
1493.7	61.0		END OF BORING.					Boring then backfilled.	
			Water observed at 16 feet while drilling.*						

(See Descriptive Terminology sheet for explanation of abbreviations)

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Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota						BORING: ST-5				
DRILLER: W. Barrett			METHOD: 3 1/4" HSA, Autohammer			DATE: 1/19/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)			BPF	WL	MC %	P200 %	Tests or Notes
1553.4	0.0									
1552.4	1.0	FILL	FILL: Sandy Lean Clay, trace roots, dark brown, frozen.							
		FILL	FILL: Clayey Sand, fine-grained, brown, frozen.							
1549.4	4.0					17		8	47	Gradation attached.
		FILL	FILL: Silty Sand, fine-grained, brown, moist.			6				
						9				
1542.4	11.0					5		9	24	Gradation attached.
		SC	CLAYEY SAND, fine-grained, trace fibers, brown, moist, medium. (Alluvium)			6	▼	23	44	
1537.4	16.0									
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, grading to Poorly Graded Sand, gray, waterbearing, loose. (Alluvium)			6	▽	25	11	Gradations attached.
1534.4	19.0								4	
		SM	SILTY SAND, fine-grained, gray, waterbearing, loose. (Alluvium)			6				
1531.4	22.0									
		SM	SILTY SAND, fine-grained, gray, waterbearing, medium dense. (Alluvium)			11		13	16	Gradation attached.
1529.4	24.0									
		ML	SILT, gray, waterbearing, very loose. (Alluvium)			4			97	Gradation attached.
1526.4	27.0									
		SP-SM	POORLY GRADED SAND with SILT, fine-grained, gray, waterbearing, loose to medium dense. (Alluvium)			13				
1522.4	31.0					5		29	9	
		ML								

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\AX PROJECTS\2014\09643.GPJ BRAUN_V8 CURRENT.GDT 3/9/15 13:36

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota						BORING: ST-5 (cont.)					
DRILLER: W. Barrett			METHOD: 3 1/4" HSA, Autohammer			DATE: 1/19/15			SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)			BPF	WL	MC %	P200 %	Tests or Notes	
1521.4	32.0		SILT, trace Poorly Graded Sand, gray, waterbearing, loose. (Alluvium) (continued)			6		29		LL=31 PI=7	
1517.4	36.0	SC	CLAYEY SAND, fine-grained, with lenses of Silt, gray, wet, rather stiff. (Alluvium)					32		DD=88.9 pcf U _c =1,228 psf k=3.8 E-7 cm/sec	
1515.4	38.0	CH	FAT CLAY, scattered fibers, gray, wet, moist to rather stiff. (Alluvium)			11			46	LL=73 PI=48	
						11		35		LL=68 PI=48	
1507.4	46.0	ML	SILT, with lenses of Lean Clay, gray, waterbearing, medium dense. (Alluvium)			7					
1502.4	51.0	SP-SM	POORLY GRADED SAND with SILT, fine-grained, grading to Poorly Graded Sand, gray, waterbearing, medium dense. (Alluvium)			15					
						14		31	6 4	Gradations attached.	
1492.4	61.0					13				*Water observed at 13 feet immediately after withdrawal of auger.	
			END OF BORING.							Vibrating wire piezometers then grouted into borehole at 17 1/2, 25 and 55 feet.	
			Water observed at 17 feet while drilling.*								

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\AX PROJECTS\2014\09643.GPJ BRAUN_V8 CURRENT.GDT 3/9/15 13:36

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota					BORING: ST-6 LOCATION: See attached sketch.				
DRILLER: W. Barrett		METHOD: 3 1/4" HSA, Autohammer			DATE: 1/19/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes	
1554.3	0.0	FILL	FILL: Clayey Sand, fine-grained, trace Gravel, scattered roots, brown, frozen to approximately 4 feet then moist.						
				14					
				6		21	49		
				12					
1545.3	9.0	CL	LEAN CLAY, with lenses of Silt and Silty Sand, brown and grading gray, moist to wet, medium. (Alluvium)	6					
				6		31			
					▼	27	76	LL=49 PI=30 Gradation attached.	
1537.3	17.0	ML	SANDY SILT, gray, waterbearing, very loose. (Alluvium)		▽				
1535.3	19.0	SP	POORLY GRADED SAND, fine-grained, with lenses of Lean Clay, gray, waterbearing, loose to medium. (Alluvium)						
1528.3	26.0	CL	LEAN CLAY, with lenses of Poorly Graded Sand, gray, wet, rather soft. (Alluvium)						
1524.3	30.0	CH	FAT CLAY, with lenses of Silt and Silty Sand, gray, wet, rather soft. (Alluvium)	33				DD=89.1 pcf U _c =786 psf	

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\AX PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:36

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota						BORING: ST-6 (cont.)		LOCATION: See attached sketch.		
DRILLER: W. Barrett			METHOD: 3 1/4" HSA, Autohammer			DATE: 1/19/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes		
1522.3	32.0		FAT CLAY, with lenses of Silt and Silty Sand, gray, wet, rather soft. (Alluvium) (continued)	5						
1519.3	35.0	SC	CLAYEY SAND, fine-grained, with lenses of Silt, gray, wet, rather stiff. (Alluvium)	10		35		LL=75 PI=53		
						31	46	DD=92.1 pcf U _c =724 psf		
1511.3	43.0	CL	LEAN CLAY, with lenses of Fat Clay and Silt, gray, wet, medium to stiff. (Alluvium)	6		32		LL=29 PI=8		
1493.3	61.0		END OF BORING. Water observed at 17 feet while drilling.*	7				*Water observed at 15 feet immediately after withdrawal of auger. Boring then grouted.		

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\X PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:37

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota					BORING: ST-7 LOCATION: See attached sketch.				
DRILLER: W. Barrett		METHOD: 3 1/4" HSA, Autohammer			DATE: 1/20/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes	
1552.6	0.0								
1550.6	2.0	FILL	FILL: Silty Sand, fine-grained, trace foots, bituminous fragments, dark brown, frozen.						
		FILL	FILL: Clayey Sand, fine-grained, with clods of Lean Clay, brown and black, frozen to moist.	7					
				5		32	47		
1545.6	7.0	CL	SANDY LEAN CLAY, brown, moist, soft to rather soft. (Alluvium)	4		17	54		
				2					
1540.6	12.0	SC	CLAYEY SAND, fine-grained, brown, wet, soft. (Alluvium)		▼	29		DD=95.8 pcf	
				3					
1533.6	19.0	SP	POORLY GRADED SAND, fine- to medium-grained, grading to Silty Sand, trace Gravel, gray, waterbearing, very loose to loose. (Alluvium)	3		27	46	Gradation attached.	
				6		18	4 24	Gradations attached.	
				8					
1525.6	27.0	CL	LEAN CLAY, trace fibers, with lenses of Silt, gray, wet, soft. (Alluvium)	3		33		LL=47 PI=31 LL=84 PI=58	

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\AX PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:37

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota						BORING: ST-7 (cont.) LOCATION: See attached sketch.				
DRILLER: W. Barrett		METHOD: 3 1/4" HSA, Autohammer			DATE: 1/20/15		SCALE: 1" = 4'			
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes		
1520.6	32.0		LEAN CLAY, trace fibers, with lenses of Silt, gray, wet, soft. (Alluvium) (continued)	3						
1518.6	34.0	CH	FAT CLAY, with lenses of Silt, gray, wet, rather stiff. (Alluvium)	11						
1509.6	43.0	CL	LEAN CLAY, gray, wet.			33	80	k=1.8 E-6 cm/sec		
1504.6	48.0	SM	SILTY SAND, fine-grained, with lenses of Lean Clay, gray, waterbearing, loose to medium dense. (Alluvium)	9			16	Gradation attached.		
1491.6	61.0		END OF BORING. Water not observed while drilling.	7		21	9	*Water observed at 12 feet immediately after withdrawal of auger. Vibrating wire piezometers grouted into borehole at 22 1/2 and 50 feet.		

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\X PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:37

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota					BORING: ST-8 LOCATION: See attached sketch.				
DRILLER: W. Barrett		METHOD: 3 1/4" HSA, Autohammer			DATE: 1/20/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes	
1551.8	0.0	FILL	FILL: Sandy Lean Clay, trace roots and Gravel, mixed brown, dark brown and black, frozen to approximately 4 feet then moist.						
				45					
				7		17	53		
				5					
				3					
1540.8	11.0	CL	LEAN CLAY, trace Poorly Graded Sand, lenses of Silt, brown to gray, moist to wet, soft to rather soft. (Alluvium)						
				3					
						28			
				4		26	63	Gradation attached.	
				3					
1529.8	22.0	SM	SILTY SAND, fine-grained, gray, waterbearing, loose. (Alluvium)				18	Gradation attached.	
1527.8	24.0	CL	SANDY LEAN CLAY, gray, wet, soft. (Alluvium)						
				3		28			
1523.8	28.0	SC	CLAYEY SAND, fine-grained, with lenses of Silt, gray, wet, soft. (Alluvium)						
				3			48	Gradation attached.	
1519.8	32.0								

DD=97.1 pcf
LL=42; PI=23
P_c=1.3 tsf
C_c=0.23
C_r=0.03
e_c=0.87
Phi_{cu}=27.6 deg
C_{cu}=358 pcf
k=8.9 E-8 cm/sec

LL=39; PI=22
DD=91.3 pcf
P_c=2.2 tsf,
C_c=0.21
C_r=0.03
e_c=0.85
Phi_{cu}=24.2 deg
C_{cu}=560 pcf
k=2.5 E-6 cm/sec

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\AX PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:37

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota					BORING: ST-9 LOCATION: See attached sketch.				
DRILLER: W. Barrett		METHOD: 3 1/4" HSA, Autohammer			DATE: 1/20/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes	
1553.5	0.0								
1552.0	1.5	FILL	FILL: Sandy Lean Clay, trace Gravel and roots, brown, frozen.						
		FILL	FILL: Clayey Sand, fine-grained, brown, frozen to approximately 4 feet then moist.	23					
				8		9	41	Gradation attached.	
1546.5	7.0	FILL	FILL: Silty Sand, fine-grained, brown, moist.	7		9	31	Gradation attached.	
				6	▼				
1541.5	12.0	CL	SANDY LEAN CLAY, with lenses of Silt, gray, wet, soft. (Alluvium)	3		30		LL=41 PI=23	
1539.5	14.0	SM	SILTY SAND, fine-grained, gray, waterbearing, very loose to loose. (Alluvium)	5	▽				
				5		29	27	Gradation attached.	
1532.5	21.0	SP-SM	POORLY GRADED SAND with SILT, fine-grained, gray, waterbearing, loose. (Alluvium)	7		25	8	Gradation attached.	
1527.5	26.0	CL	SANDY LEAN CLAY, gray, wet, rather soft to medium. (Alluvium)	9					
				4					

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\AX PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:37

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota						BORING: ST-9 (cont.)				
DRILLER: W. Barrett			METHOD: 3 1/4" HSA, Autohammer			DATE: 1/20/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes		
1521.5	32.0		SANDY LEAN CLAY, gray, wet, rather soft to medium. (Alluvium) <i>(continued)</i>	4		32		LL=45 PI=26		
				7						
1514.5	39.0					33		DD=89.5 pcf LL=41 PI=21 U _c =831 psf		
		CH	FAT CLAY, with lenses of Silt, gray, wet, rather soft to medium. (Alluvium)	6		27		LL=65 PI=43		
				5						
				8						
1500.5	53.0	CL	SANDY LEAN CLAY, with lenses of Silt, gray, wet, medium. (Alluvium)	8		35	74			
1495.5	58.0	CH	FAT CLAY, gray, wet, rather stiff. (Alluvium)							
1492.5	61.0			10						
			END OF BORING.							
			Water observed at a depth of 14 feet while drilling.*							

*Water observed at 10 feet immediately after withdrawal of auger.

Boring then backfilled.

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\AX PROJECTS\2014\09643.GPJ BRAUN_V8 CURRENT.GDT 3/9/15 13:35

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota					BORING: ST-10 LOCATION: See attached sketch.				
DRILLER: W. Barrett		METHOD: 3 1/4" HSA, Autohammer			DATE: 2/17/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes	
1551.5	0.0	FILL	FILL: Sandy Lean Clay, fine-grained, trace Gravel, brown, frozen to approximately 4 feet then moist.						
				29		16	61		
				10					
1544.5	7.0	FILL	FILL: Silty Sand, fine-grained, trace Gravel, brown, moist.	8		14	45		
1542.5	9.0	FILL	FILL: Sandy Lean Clay, trace Gravel, brown, wet.	7		19	58		
1539.5	12.0	SC	CLAYEY SAND, fine-grained, gravelly lense at the 15-foot sample depth, gray and brown, wet, rather soft to rather stiff. (Alluvium)	4				*50 blows to set 4 inches.	
				*					
				9					
1532.5	19.0	ML	SANDY SILT, fine-grained, grading to Poorly Graded Sand and Silty Sand, gray, waterbearing, very loose. (Alluvium)	4		24	55	DD=89.4 pcf P _c =1.43 tsf C _c =0.23; C _r =0.05; e _c =0.89 k=4.5 E-1 cm/sec	
1529.5	22.0	CL	LEAN CLAY, gray, wet, rather soft. (Alluvium)	4					
1526.5	25.0	CH	FAT CLAY, gray, wet, rather soft to medium. (Alluvium)	7		32			
				5					

(See Descriptive Terminology sheet for explanation of abbreviations)

LOG OF BORING N:\GINT\PROJECTS\AX PROJECTS\2014\09643.GPJ BRAUN_V8_CURRENT.GDT 3/9/15 13:35

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue NE - Phase I Minot, North Dakota						BORING: ST-10 (cont.) LOCATION: See attached sketch.				
DRILLER: W. Barrett		METHOD: 3 1/4" HSA, Autohammer		DATE: 2/17/15		SCALE: 1" = 4'				
Elev. feet	Depth feet	Symbol	Description of Materials (Soil-ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	MC %	P200 %	Tests or Notes		
1519.5	32.0		FAT CLAY, gray, wet, rather soft to medium. (Alluvium) <i>(continued)</i>	6		40		DD=80.6 pcf		
1513.5	38.0	CL	LEAN CLAY, gray, wet, medium. (Alluvium)	6						
				6						
1505.5	46.0	ML	SANDY SILT, with lenses of Lean Clay and Poorly Graded Sand, gray, wet to waterbearing, loose. (Alluvium)	7						
				8						
				8						
1493.5	58.0	CH	FAT CLAY, trace fibers, gray, wet, medium. (Alluvium)	8				*Water observed at 16 feet immediately after withdrawal of auger. Boring then grouted.		
1490.5	61.0		END OF BORING. Water not observed while drilling.*							

LOG OF TEST PIT N:\GINT\PROJECTS\AX PROJECTS\2014\09643-TEST PIT.GPJ BRAUN_V8_CURRENT.GDT 3/11/15 09:46 (See Descriptive Terminology sheet for explanation of abbreviations)

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue Northeast - Phase I Minot, North Dakota					TEST PIT: TP-1001 LOCATION: See attached sketch.				
DRILLER: Dit It Up Backhoe Service			METHOD: 3 1/4" HSA, Autohammer		DATE: 2/19/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	MC %	P200 %	Tests or Notes	
1553.4	0.0								
		FILL	FILL: Lean Clay, trace Gravel, dark brown, frozen.						
1551.9	1.5								
1551.4	2.0	AGG	6 inches aggregate base.						
1550.6	2.8	PAV	8 inches bituminous pavement.						
		FILL	FILL: Clayey Sand, trace Gravel, pieces of concrete and wood, brown, frozen to moist.						
						7	44	Bag sample taken from 5 to 6 feet. LL=29; PI=15 MDD=___pcf PMC=___% Phi _{cu} =___Deg C _{cu} =___psf k=___cm/sec 2 grab samples taken at 7 1/2 feet.	
1545.9	7.5								
1545.4	8.0		Buried tree trunk (Impenetrable).						
			END OF TEST PIT.						
			No groundwater observed to bottom of test pit upon completion.						
			Test pit then backfilled.						

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue Northeast - Phase I Minot, North Dakota						TEST PIT: TP-1003			
						LOCATION: See attached sketch.			
DRILLER: Dit It Up Backhoe Service			METHOD: 3 1/4" HSA, Autohammer			DATE: 2/19/15		SCALE: 1" = 4'	
Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	MC %	P200 %	Tests or Notes	
1553.1	0.0	FILL	FILL: Sandy Lean Clay, trace Gravel, dark brown, frozen.						
1549.1	4.0	FILL	FILL: Poorly Graded Sand, fine- to medium-grained, becoming Clayey near bottom of test pit, brown, moist.					Bag sample taken from 5 to 6 feet.	
1542.6	10.5		END OF TEST PIT. Stopped due to utility conflict. No groundwater observed to bottom of test pit upon completion. Test pit then backfilled.			8	38	Bag sample taken from 9 to 10 feet. Grab sample taken at 10 1/2 feet.	

LOG OF TEST PIT N:\GINT\PROJECTS\AX PROJECTS\2014\09643-TEST PIT.GPJ BRAUN_V8_CURRENT.GDT 3/11/15 09:46
 (See Descriptive Terminology sheet for explanation of abbreviations)

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue Northeast - Phase I Minot, North Dakota				TEST PIT: TP-1004 LOCATION: See attached sketch.			
DRILLER: Dit It Up Backhoe Service		METHOD: 3 1/4" HSA, Autohammer		DATE: 2/19/15		SCALE: 1" = 4'	
Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	Tests or Notes	
1552.9	0.0	FILL	[Cross-hatch pattern]			Bag sample taken at 5 to 6 feet. Bag sample taken from 10 to 11 feet. Grab sample taken at 12 feet.	
			FILL: Sandy Lean Clay, trace Gravel, brown, frozen.				
1548.9	4.0	FILL	[Cross-hatch pattern]				
			FILL: Poorly Graded Sand, fine- to medium-grained, brown, moist.				
1545.4	7.5	FILL	[Cross-hatch pattern]				
			FILL: Clayey Sand, fine-grained, brown, wet.				
1540.9	12.0						
1540.4	12.5	SC	[Diagonal lines pattern]				
			CLAYEY SAND, fine-grained, trace roots, brown, wet. (Alluvium)				
			END OF TEST PIT.				
			No groundwater observed to bottom of test pit upon completion.				
			Test pit then backfilled.				

LOG OF TEST PIT N:\GINT\PROJECTS\AX PROJECTS\2014\09643-TEST PIT.GPJ BRAUN_V8_CURRENT.GDT 3/11/15 09:47 (See Descriptive Terminology sheet for explanation of abbreviations)

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue Northeast - Phase I Minot, North Dakota					TEST PIT: TP-1006 LOCATION: See attached sketch.				
DRILLER: Dit It Up Backhoe Service			METHOD: 3 1/4" HSA, Autohammer		DATE: 2/19/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	MC %	P200 %	Tests or Notes	
1552.6	0.0	FILL	FILL: Lean Clay, trace Gravel, dark brown, frozen.						
1549.6	3.0	FILL	FILL: Sandy Lean Clay, with brick fragments, Gravel, glass and concrete, dark brown, moist.						
1545.6	7.0	FILL	FILL: Sandy Lean Clay, brown, moist.						Bag sample taken from 5 to 6 feet.
1543.6	9.0	ML	SANDY SILT, brown, wet. (Alluvium)			23	78		Bag sample taken from 8 to 9 feet. LL=37; PI=20
1541.6	11.0		END OF TEST PIT. No groundwater observed to bottom of test pit upon completion. Test pit then backfilled.						Grab sample taken at 10 1/2 feet.

LOG OF TEST PIT N:\GINT\PROJECTS\AX PROJECTS\2014\09643-TEST PIT.GPJ BRAUN_V8_CURRENT.GDT 3/11/15 09:47 (See Descriptive Terminology sheet for explanation of abbreviations)

Braun Project B14-09643 GEOTECHNICAL EVALUATION 4th Avenue Northeast - Phase I Minot, North Dakota					TEST PIT: TP-1007 LOCATION: See attached sketch.				
DRILLER: Dit It Up Backhoe Service			METHOD: 3 1/4" HSA, Autohammer		DATE: 2/19/15		SCALE: 1" = 4'		
Elev. feet	Depth feet	ASTM Symbol	Description of Materials (ASTM D2488 or D2487)	BPF	WL	MC %	P200 %	Tests or Notes	
1552.9	0.0	FILL	[Cross-hatch symbol]						
1549.9	3.0	FILL	[Cross-hatch symbol]						
1544.4	8.5	FILL	[Cross-hatch symbol]			13	84	Grab sample taken of black and yellow soil at 4 1/2 feet. Bag sample taken from 6 1/2 to 7 1/2 feet. Bag sample taken from 8 to 9 feet. LL=37; PI=18	
1542.9	10.0	FILL	[Cross-hatch symbol]						
END OF TEST PIT. No groundwater observed to bottom of test pit upon completion. Test pit then backfilled.									

Appendix G

Limitations and Qualifications

Limitations

The detailed history of ownership and land-use to satisfy the requirements and purpose of the Assessment was determined from the activities listed in the report, and a title review was not needed.

The scope of the HTRW did not involve the collection and analysis of any type of sample. The Assessment did not involve completion of any surveys or the offering of any opinions or advice with respect to structural engineering matters, asbestos-containing materials, radon, lead-based paint, lead in drinking water, wetlands, compliance with environmental regulations, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, biological agents, mold, or other conditions that are beyond the scope of the HTRW guidance.

Barr Engineering Co. has performed its work in a manner consistent with the care and skill ordinarily exercised by members of the environmental profession under similar budget and time constraints. Within this context, Barr assumes responsibility for its own observations, along with its interpretation of the information gathered. No other warranty is made or intended.

Because Barr was not retained to verify information, Barr assumes no responsibility for the accuracy of information that it obtained from other sources including, without limitation, regulatory and government agencies, persons interviewed about the Property, and vendors of public data. Performance of the Assessment is intended to reduce, but will not eliminate uncertainty regarding the presence of HTRW conditions within the Assessment Area. To the extent that Barr does not identify HTRW conditions within the Assessment Area, Barr's opinions in the report are not representations that the Property is free of such conditions. Under no circumstances can Barr represent or warrant that releases of hazardous substances or petroleum products do not exist on the Property.

Appendix H

Contingency Plan

Appendix H
Site Contingency Plan
4th Avenue Floodwall
May 2015

Barr Engineering Co. completed a Hazardous, Toxic, and Radioactive Waste Assessment (HTRW Assessment) on the 4th Avenue NE segment of the Flood Protection Project (Project) located in the City of Minot, Ward County, North Dakota. This HTRW Assessment focuses on the 4th Avenue Floodwall segment, where construction of a new floodwall, levee, transportation closures, and related utility relocations are planned as part of the Project (Assessment Area)

Barr performed this HTRW Assessment in general conformance with ER 1156-2-132 U.S. Army Corps of Engineers Water Resources Policies and Authorities, Hazardous, Toxic and Radioactive Waste Guidance for Civil Works Projects.

The HTRW reported a number of findings including: a PVC vent pipe, vacant buildings, historical industrial buildings located upgradient, or adjacent to, the Assessment Area, and fill with inert debris located throughout the Assessment Area. No fuel oil tanks, vent pipes, leaking transformers, or other sources of hazardous materials or petroleum products were observed.

1.0 Introduction and Purpose

This Site Contingency Plan will be used if contamination is encountered during construction activities on the site.

During construction activities, the people involved need to be alert to the possibility that unexpected hazardous substances or petroleum products may be encountered. If unexpected hazardous substances or petroleum products are encountered during construction activities, the parties onsite will need to make decisions on short notice. These decisions potentially have serious impacts and consequences. To help ensure that situations are handled properly, personnel involved in construction-related activities must be trained in the immediate recognition of a wide range of potential hazards and be ready to respond in accordance with a previously prepared general plan of action. Such a plan is commonly referred to as a Site Contingency Plan.

This Site Contingency Plan is a stand-alone document. A copy will be available at the site during construction activities and individuals onsite that are responsible for managing the construction activities, especially those involving excavation work, will be provided with a copy and be familiar with its contents.

The manager of the construction project will be responsible for being informed regarding the philosophy behind and the content of this Site Contingency Plan. The construction manager must also be responsible for informing the onsite workers involved with excavation activities about actions to be taken if contingent situations described in this plan are encountered. The need for taking appropriate actions should also be reinforced in daily safety meetings held at the site.

Contingent conditions that may be encountered could include uncovering an unknown underground storage tank, a water well or vent pipe, debris, containers, contaminated soils, or contaminated water that accumulates in the excavation. These and other unexpected conditions will be addressed according to the procedures described in this Site Contingency Plan.

Obvious signs of contamination in a contingency situation can include:

- Strong or unusual chemical odors during excavation (e.g., solvent, petroleum, etc.).
- Encountering industrial wastes such as tar, sludge, semisolids, powders, resins, or ash.
- Discolored soil that is different than encountered elsewhere on the site.
- Drums and/or containers.
- Buried debris such as metal scrap, cans, jars, brick, concrete, asphalt, trash, or wood.
- Objects such as vent pipes or wells.
- Asbestos-containing materials.
- Persons who suddenly become ill at the site (keep in mind that certain hazardous substances such as methane gas which is odorless and colorless cannot be detected visually or by smell).

2.0 Initial Actions

If the items above are observed during earthwork activities, the following actions must be taken:

1. IMMEDIATELY STOP WORK IN THE AREA OF UNEXPECTED CONTAMINATION, PROVIDE FOR WORKER SAFETY, AND SECURE THE AREA;
2. Contact the property owner or other person responsible for overseeing the construction project if that person is onsite or contact the office project manager.
3. Do not rebury the hazardous substances or petroleum products that are encountered. The area of any exposed hazardous substances or petroleum products must be secured.

3.0 Assessing the Situation

An environmental professional will be responsible for inspecting the area of contamination or contingent situation and developing a plan of action that is consistent with this Site Contingency Plan. This may involve implementing measures to further secure the area (e.g., installing fencing or posting warning signs), collecting samples to identify the type and magnitude of contamination that is present, and placing test pits to help define the extent of contamination that is present.

The environmental professional responsible for managing the contingency situation or the client representative will contact the appropriate North Dakota Department of Health (NDDH) representative to

make them aware of the situation and to determine the process for NDDH input and review of the plan to assess and manage the contingent action.

Once work in the area has stopped, the work site has been secured, the notification process has been implemented, the situation has been adequately assessed, and a plan of contingent action has been established, a OSHA HAZWOPER-trained contractor with properly trained or certified work crews (for issues such as tank removal, asbestos containing materials handling, hazardous waste management, water well abandonment, etc.) will implement the contingent action plan. Activities implemented through the Site Contingency Plan will only be performed by OSHA HAZWOPER-trained personnel with the proper licensing for any specialty work and under a Project Health and Safety Plan (PHASP) that will be prepared for the contingent action. The original onsite contractor will be allowed to continue work on portions of the site that are not involved with the contingency situation.

4.0 Contingent Actions

The following paragraphs describe the general contingent actions that will be taken in the event that contamination or other contingent conditions are encountered during project construction.

Specific requirements for the OSHA HAZWOPER-trained contractor as they relate to the implementation of contingent actions may include erosion control, runoff and runoff controls, air emission controls, decontamination facilities, notification procedures, construction on temporary contaminated soil stockpile area, and contaminated media profiling and treatment/disposal.

4.1 Contaminated Soils (not a RCRA-regulated hazardous waste)

Soils potentially containing hazardous substances or petroleum products may be encountered during earthwork activities associated with site construction. If, based upon visual or olfactory evidence, such materials are encountered during earthwork activities, excavation of the impacted area will cease until the appropriate regulatory agency is notified, samples are collected, results are reviewed, and a plan of action is developed as described in Sections 2.0 and 3.0 of this Site Contingency Plan.

General requirements are described in the following paragraphs.

- An environmental professional familiar with site conditions and the plan for contingent action will be present during excavation of contaminated soils to screen and classify the soils (based on appearance, odor and organic vapor headspace measurements) and to collect analytical samples for further characterization and for sidewall and base of excavation verification.
- A contaminated soil stockpile area will be constructed onsite by creating an impervious surface by placing plastic sheets (minimum 10-mil) on the ground or similar. A plastic cover (minimum 10-mil) will be placed over the stockpiled materials at the end of each work day and after excavation is complete and will be held in place with weights such as tires, bags of sand or clean soil. All plastic sheets will overlap at least 3 feet at seams. The contractor will be instructed to control all runoff from the stockpile area.

- After field screening indicates that the limits of the contaminated soil has been reached, soil samples will be collected from the base and sidewalls of the excavation in accordance with NDDH Cleanup Action Levels for Gasoline and Other Petroleum Hydrocarbons dated Dec, 2006 (<http://www.ndhealth.gov/wm/Publications/CleanupActionLevelsForGasolineAndOtherPetroleumHydrocarbons.pdf>) or in accordance with the verification sampling plan negotiated with the regulatory agency for the contingent action. Soil samples will be analyzed for the appropriate parameters designated by the environmental professional in consultation with the NDDH based on the likely source and type of contamination and field observations. The results from the analysis of the verification samples will be compared to NDDH risk-based screening levels consistent with the land use anticipated for the site. Unless otherwise described in the plan for contingent action, the intent will be that excavation of contaminated soil will continue until appropriate risk-based cleanup levels are attained. The NDDH will be consulted regarding any issues associated with an inability to meet appropriate risk-based cleanup levels.
- Soil samples from the stockpiled contaminated soil will be collected in accordance with NDDH guidance such as NDDH's Investigations of Contaminant Release Sites dated November 2006 (<http://www.ndhealth.gov/wm/Publications/InvestigationsOfContaminantReleaseSites.pdf>) and as necessary to complete waste profiling for disposal purposes after the material has been excavated. A plan for disposing of or otherwise managing the stockpiled soils will be prepared after the results from all the sampling are available.

4.2 RCRA-Regulated Hazardous Waste

Materials that are characterized as a RCRA-regulated hazardous waste and that are generated in the initial excavation will be containerized and temporarily stored onsite on an impervious surface in a secured area until disposal arrangements are determined. If practicable, the remaining hazardous waste will be left in place until disposal arrangements are made. The area of contamination must be secured with fencing and posted with warning signs. Storage on the site will not exceed a duration of 120 days once the material has been determined to be a hazardous waste.

All hazardous wastes will be stored, transported, treated and disposed of in accordance with all applicable rules and regulations. The general requirements for construction of the storage area, waste characterization, and confirmation sampling will be implemented as described in 4.1 of this section.

4.3 Buried Drums or Containers

If drums or containers are encountered, they will be individually removed and their condition assessed. If the excavated drums and containers are not in good condition (e.g., severe rusting, structural defects, leaking, etc.), contents will be transferred to new drums, overpacks, or U.S. Department of Transportation (DOT)-approved containers. These containers will meet the appropriate requirements of U.S.DOT, OSHA and U.S.EPA regulations for the applicable materials.

Intact and repacked drums and containers will be transported to an onsite, secure, impervious storage area and/or placed in roll-off boxes. If appropriate, liquids may be removed from drums and containers and bulk-stored in tanks. Roll-off boxes will be lined to contain accumulated materials. The unused

volume in the roll-off boxes will be sufficient to contain 10 percent of the volume of the drums or the volume of the largest container, whichever is greater. The roll-off boxes will be covered to prevent collection of precipitation.

Samples will be collected from the drums/containers and analyzed as appropriate to characterize the contents. After the contents of the drums/containers have been characterized, arrangements will be made for disposal. The disposal method will be discussed with the DOH and will be implemented after regulatory agency approval.

Soil surrounding the buried tanks or containers will be managed in accordance with 4.1 of this section.

4.4 Underground Storage Tanks

In the event an underground storage tank is encountered during an excavation associated with a construction project, removal of the tank and excavation of any petroleum-contaminated soils in the tank basin will be conducted in accordance with NDDH's Cleanup Action Levels for Gasoline and Other Petroleum Hydrocarbons and Investigation of Contaminant Release Sites. The underground tank will be removed by an underground storage tank contractor or a contractor recommended by the NDDH that will be mobilized to the site.

The storage tank contractor will confirm that the underground storage tank is isolated from all piping and that utilities in the area have been adequately located and marked and that they can be avoided as the tank and any contaminated soil is removed. To the maximum extent practicable, the tank excavation contractor will remove and containerize residual tank contents prior to tank excavation. Appropriately trained personnel will handle all residual tank contents in accordance with NDDH and OSHA requirements. Tank excavation and removal will be completed in a manner that minimizes the potential for spillage of residual tank contents. Temporary onsite storage of the removed tank will be on plastic sheeting (minimum of 10-mil) to prevent incidental soil contamination.

In the event of a visible release of petroleum product or hazardous substances from the tank, assessment and notifications procedures described in Section 3.0 will be implemented and any resulting contaminated soil will be managed in accordance with procedures described in 4.1 of this section.

4.5 Buried Debris Including Asbestos-Containing Waste Materials

Buried debris unexpectedly encountered during an excavation that does not contain asbestos-containing material will be excavated, temporarily stored onsite, and disposed of at the Minot Landfill; no analytical sampling is required for disposal of debris.

Buried debris sometimes contains asbestos-containing material (ACM). The environmental professional that is sent to assess the discovery of buried debris in a contingency situation will be trained in asbestos awareness as required for Class IV asbestos work.

If suspected ACM is identified by the asbestos awareness-trained environmental professional, the material will be sampled by a fully-certified and licensed asbestos inspector to help identify the proper separation,

handling, and disposal of the material. If excavation of ACM is required, a licensed abatement asbestos contractor will be used to provide the proper handling and disposal of the ACM. All asbestos-related work will be conducted in accordance with North Dakota and federal National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements. Monitoring of airborne asbestos concentrations will be conducted in accordance with the OSHA, asbestos requirements for the construction industry (29 CFR 1926.1101).

An emission control plan will be prepared and implemented for the work if regulated quantities (over 260 lf, 160 sf or 35 cf) of ACM or ACM and soil mixture are encountered during the excavation activities. The ACM contractor will use standard operating procedures during excavation and abatement work to ensure maximum protection and to safeguard workers, visitors, tenants, site employees and the environment.

4.6 Water Accumulation in the Excavation

In the event an excavation must be dewatered during construction activities and procedures describing this dewatering are not contained in the project specifications, the contractor will first contain the water and then notify the construction manager following the notification procedures in Section 2.0 of this Plan). If the water is in contact with potentially-contaminated soil, or displays an odor, sheen, or another indication of contamination, the water will be sampled by an environmental professional and the results of the sampling will be used to design a plan for treating and disposing of the water and acquiring the necessary permits for discharge to an approved facility (sanitary sewer, storm sewer, or other facility).

4.7 Objects Such as Wells or Vent Pipes

In the event a metal vent pipe is uncovered during an excavation, the excavation will be continued to a depth of 10 to 15 feet below the ground surface to determine if the pipe is connected to a tank. If the pipe is not connected to a tank or if the feature appears to be a water well, a licensed water well contractor will be mobilized to permanently seal the well in accordance with state, county and local requirements and to file the appropriate paperwork to complete the sealing operation. If the feature is not a well or a potential downward conduit for contamination (e.g., an old piling, etc), it will be cut off at a reasonable depth and the location will be recorded with GPS coordinates.

5.0 Documentation and Reporting

The implementation of the contingent actions will be documented and reported in a Contingent Action Report in accordance with DOH reporting requirements. The Contingent Action Report will include a text description of the contingent work with supporting documentation which may include tables summarizing the results of field screening and analytical sampling (including waste profile samples); figures documenting the location of contingent activities, a photo log, manifests for all waste disposed offsite, field notes, and laboratory analytical reports. The report will be prepared by the environmental professional responsible for implementing the contingent action.

The Contingent Action Report will be submitted to the NDDH upon completion of the project and will provide the NDDH documentation that the contingent actions were completed in accordance with the Site Contingency Plan.

Appendix F

Hazardous, Toxic, and Radioactive Waste Field Investigation Phase 1 - 4th Avenue Floodwall, Minot North Dakota Memo

Memorandum

To: Souris River Joint Board
From: Dan Fetter and Amanda Bohnenblust, Barr Engineering Co.
Subject: Hazardous, Toxic, and Radioactive Waste Field Investigation
Phase 1- 4th Avenue Floodwall, Minot North Dakota
Date: February 25, 2016
Project: Mouse River Enhanced Flood Protection Project

This memo summarizes the results from the soil and groundwater field investigation (Investigation) performed as part of the Hazardous, Toxic, and Radioactive Waste (HTRW) Assessment for the Mouse River Enhanced Flood Protection Project (Project). The Investigation was conducted as part of the Preconstruction Engineering Design (PED) phase of the Project, targeting historical properties of interest (Site) that were identified during a previous phase of HTRW Assessment activities (Barr, 2015) for the 4th Avenue Floodwall segment of the Project. The Investigation location (Site) and 2015 HTRW Assessment area are shown on Figure 1. The Site layout and the historical properties of interest from the previous HTRW Assessment activities are shown in Figure 2.

This report includes: a summary of the Site background, a description of the Investigation scope and methods, a discussion of the results of the Investigation, and recommendations for further actions. The purpose of this Investigation is to assess for the absence or presence of shallow soil and groundwater contamination associated with the historic properties of interest that are located near the anticipated construction areas for the Project.

Scope of Work

As part of the Investigation, Barr provided the following scope of work:

- Prepared a project-specific health and safety plan (PHASP) prior to performing investigation sampling.
- Mobilized to the Site and conducted public and private utility locates.
- Advanced six borings to between 8 and 20 feet below ground surface (bgs).
- Field screened the material encountered, which included soil classification, inspection for visual evidence of contamination (i.e. odor, discoloration, sheen, or other field indications of potential soil impacts) and headspace volatile organic vapor screening.
- Collected two soil samples per boring, based on field screening results, and submitted them for laboratory analysis of gasoline range organics (GRO), diesel range organics (DRO), semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), and Resource Conservation and Recovery Act (RCRA) metals.

To: Souris River Joint Board
From: Dan Fetter and Amanda Bohnenblust, Barr Engineering Co.
Subject: Hazardous, Toxic, and Radioactive Waste Field Investigation
Phase 1- 4th Avenue Floodwall, Minot North Dakota
Date: February 25, 2016
Page: 2

- Converted four borings to temporary monitoring wells to collect groundwater samples and submitted them for laboratory analysis of GRO, DRO, SVOCs, VOCs, and three of the groundwater samples were also analyzed for RCRA metals.
- Prepared this report, which presents the findings and results of the Investigation and provides recommendations and conclusions for potential further actions based on these findings and results.

Investigation Results

On November 23, and November 24, 2015, Barr advanced 4 soil borings on the Site to a depth of 20 feet bgs and 2 soil borings to a depth of 8 feet bgs; sampling locations are shown on Figure 3.

Soil was field screened continuously at each boring for visual classification, moisture, odor, discoloration, sheen, and the presence of organic soil gas vapors using an 11.7 electron-volt (eV) photoionization detector (PID). Soils were generally described in accordance with American Society for Testing and Materials (ASTM) D-2488, Standard Practice for Description and Identification of Soils (Visual/Manual Method). The boring logs are provided in Appendix A. The depths of the soil samples collected are listed under the remarks section of the logs. A photo log of the Investigation activities and select soils found at the Site are provided in Appendix B. Sampling equipment that came in contact with soil and groundwater were decontaminated between collected samples. All samples were collected into laboratory-supplied sample containers and standard chain-of-custody procedures were maintained for handling samples.

Borings B-1, B-2a, B-3, and B-4 were converted to temporary monitoring wells, for the purposes of collecting shallow groundwater samples. Laboratory reports are included in Appendix C.

Soil and groundwater samples collected were analyzed using the following methods: DRO and GRO by EPA method 8015D, RCRA metals by EPA method 6010C, SVOCs by EPA method 8270D, VOCs by EPA method 8260B. Laboratory services were provided by Legend Technical Services (Legend) of St. Paul, Minnesota.

The analytical results for soil are summarized on Table 1. The soil analytical results were compared to Environmental Protection Agency's (EPA) Industrial Carcinogenic and Non-Carcinogenic values and North Dakota Department of Health (NDDH) Guidelines for the Assessment and Cleanup of Saltwater Releases – Soil Cleanup Standards.

The groundwater analytical results are summarized on Table 2. The analytical groundwater results were compared to EPA Secondary Drinking Water Regulations, NDDH Guidelines for the Assessment and Cleanup of Saltwater Releases – Groundwater Cleanup Standards, EPA Maximum Contaminant Levels, and ND surface water standards (ND Water Quality Criteria – Human Health Values, and ND Maximum Limits for Substances in or Characteristics of Class 1 Streams – Chronic).

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Subject: Hazardous, Toxic, and Radioactive Waste Field Investigation
Phase 1- 4th Avenue Floodwall, Minot North Dakota
Date: February 25, 2016
Page: 3

Soil borings had similar classifications at similar depth intervals. Fill varied from 1 foot thick at boring B-5 to 12 feet thick at boring B-1 and consisted of varying amounts of fat clay, coarse sand, and gravel (CH to GC). Below the fill, native fat clay (CH) which was occasionally sandy or fine-grained clayey sand (SC) was encountered. Coarser sand was encountered near the groundwater table, which was observed at approximately 10' bgs at most of the deeper borings.

Field screening indicated no elevated headspace readings (less than 1.5 parts per million (ppm)). An odor was encountered at boring B-1 at a depth of 7.5' bgs. No other discoloration, sheen, or odor was observed at any other depth or boring. Approximately 4 inches of weathered concrete was observed at 6' bgs at boring B-4.

Two geotechnical borings were also completed in the Site area by Braun in January 2015, as shown on Figure 3. The boring logs for those two borings identified approximately 12 feet of fill, underlain by sandy lean clay and clayey sand. No debris, or evidence of contamination were noted in the log (e.g., no odors or staining).

The soil analytical results indicate that shallow soil concentrations exceed EPA Industrial Carcinogenic and Non-Carcinogenic criteria and the NDDH Guidelines for the Assessment and Cleanup of Saltwater Releases for arsenic and chromium. Arsenic concentrations are within the reported background range of <0.1 – 34 milligrams/kilogram (mg/kg) as documented by USGS studies (reference [1]). Most of the Chromium analytical results for soil, which range from 4.4 mg/kg to 20 mg/kg, exceeded EPA industrial value of 6.3 mg/kg, although the soil analytical results were for total chromium, while the EPA values are associated with only hexavalent chromium. It is unlikely that the observed total chromium concentrations are comprised of only hexavalent chromium species as the other chromium species are normally present in soil and the historical land uses in this area are not typically associated with hexavalent chromium sources. DRO and GRO were both detected at concentrations below 10 mg/kg.

Groundwater concentrations of DRO exceed NDDH Guidelines for the Assessment and Cleanup of Saltwater Releases – Groundwater Cleanup Standards in boring B-1 through B-5. However, based on the site setting, a comparison of the groundwater analytical results to the surface water standards for the river is more appropriate as discussed below.

During the previous HTRW Assessment efforts, groundwater flow direction at the Site is anticipated to be south towards the Mouse River; however, due to pumping from public water supply wells, groundwater flow reverses direction away from the river and towards the public water supply in the area. The City of Minot requires all residents within the city limits to be connected to Minot's water supply system. Since there is no known groundwater use at the Site, the surface water at the river is the presumed receptor of potential concern for the Site area, and so the groundwater results are also compared to the ND surface water quality standards (SWQS).

The groundwater analytical results indicate that Bis (2-ethylhexyl)phthalate slightly exceeds ND Water Quality Criteria – Human Health Values – Chronic and EPA's MCL in Boring B-1. However, Bis

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Phase 1- 4th Avenue Floodwall, Minot North Dakota
Date: February 25, 2016
Page: 4

(2-ethylhexyl)phthalate is a common laboratory contaminant and the detections noted are potentially a result of the analytical testing process. The groundwater sample at B-4 had slightly low dissolved oxygen and all but one of the samples had slightly low pH for Class 1a waters (Table 2). However, the average dissolved oxygen in the groundwater samples at the site area meets the SWQS (minimum 5 mg/l), and the average pH in the groundwater samples at the site was 6.9, which was just out of range for the SWQS (pH between 7 and 9).

Conclusions and Recommendations

An odor was noted during field screening; however, no detections were reported for soil and groundwater near the boring.

Arsenic and total chromium exceed EPA Industrial Carcinogenic and Non-Carcinogenic criteria and the NDDH Guidelines for the Assessment and Cleanup of Saltwater Releases. However, arsenic is within the reported background ranges, and total chromium is unlikely comprised of hexavalent chromium that is the basis for the criteria. The soil analytical results did not identify significant concerns and so no further HTRW assessments for soil in the Site are recommended for the Project.

DRO concentrations exceed Guidelines for the Assessment and Cleanup of Saltwater Releases – Groundwater Cleanup Standard; however, groundwater encountered during temporary dewatering during construction will be discharged to the Mouse River, indicating that SWQS are more relevant to assess groundwater impacts. There are no SWQS for DRO, but no individual petroleum constituents were detected at concentrations exceeding ND SWQS. Dissolved oxygen and pH were slightly below SWQS limits in some groundwater samples, but the average concentration for those parameters across the study area does not indicate a significant risk to the river for the temporary construction dewater that is anticipated during Project construction. Therefore, no additional HTRW assessments are anticipated for the Site.

These field investigation results and preliminary recommendations were discussed with staff at NDDH Surface Water Division, and they did not identify any further concerns pending their review of this written report.

A Contingency Plan has been developed to guide actions in the event that unanticipated environmental conditions are encountered during construction.

References

- [1] Association for the Environmental Health of Soils, *Study of State Soil Arsenic Regulations*, Amherst, MA, p. 40.

Tables

Table 2
Soil Analytical Data Summary
Mouse River
Minot, ND

Location Date Depth				B-1 11/23/2015 10 - 12 ft	B-1 11/23/2015 16 - 18 ft	B-2a 11/24/2015 2 - 4 ft	B-2a 11/24/2015 4 - 6 ft	B-3 11/24/2015 0 - 2 ft	B-3 11/24/2015 6 - 8 ft	B-4 11/24/2015 2 - 4 ft	B-4 11/24/2015 8 - 10 ft	B-5 11/24/2015 0 - 2 ft	B-5 11/24/2015 6 - 8 ft	B-6 11/24/2015 0 - 2 ft	B-6 11/24/2015 6 - 8 ft
Parameter	Analysis Location	EPA Industrial Carcinogenic and Non-Carcinogenic RSL TR=1E-06 or THQ=0.1	NDDoH Guidelines for the Assessment and Cleanup of Saltwater Releases - Soil Cleanup Standards												
Effective Date		06/01/2015	12/01/2014												
Exceedance Key		Bold	No Exceed												
General Parameters															
Solids, percent	Lab			74 %	77 %	83 %	83 %	89 %	77 %	94 %	83 %	91 %	91 %	89 %	79 %
Metals															
Arsenic	Lab	3.0 c*R mg/kg		4.1 mg/kg	2.1 mg/kg	6.2 mg/kg	4.5 mg/kg	11 mg/kg	6.0 mg/kg	8.9 mg/kg	2.1 mg/kg	6.0 mg/kg	3.6 mg/kg	5.3 mg/kg	4.6 mg/kg
Barium	Lab	22000 n mg/kg		150 mg/kg	190 mg/kg	310 mg/kg	210 mg/kg	230 mg/kg	140 mg/kg	100 mg/kg	72 mg/kg	160 mg/kg	110 mg/kg	150 mg/kg	160 mg/kg
Cadmium	Lab	98 n mg/kg		< 0.34 mg/kg	< 0.32 mg/kg	< 0.30 mg/kg	< 0.30 mg/kg	< 0.28 mg/kg	1.9 mg/kg	< 0.27 mg/kg	< 0.30 mg/kg	< 0.27 mg/kg	< 0.27 mg/kg	< 0.28 mg/kg	< 0.32 mg/kg
Chromium	Lab	6.3 c*CR6 mg/kg		15 mg/kg	19 mg/kg	14 mg/kg	16 mg/kg	11 mg/kg	20 mg/kg	12 mg/kg	4.4 mg/kg	12 mg/kg	8.1 mg/kg	11 mg/kg	17 mg/kg
Lead	Lab	800 L mg/kg		8.0 mg/kg	8.6 mg/kg	12 mg/kg	8.5 mg/kg	31 mg/kg	8.2 mg/kg	5.2 mg/kg	2.6 mg/kg	7.3 mg/kg	4.1 mg/kg	12 mg/kg	9.0 mg/kg
Mercury	Lab	4.0 ns mg/kg		< 0.68 mg/kg	< 0.65 mg/kg	< 0.60 mg/kg	< 0.60 mg/kg	< 0.56 mg/kg	< 0.65 mg/kg	< 0.53 mg/kg	< 0.60 mg/kg	< 0.55 mg/kg	< 0.55 mg/kg	< 0.56 mg/kg	< 0.63 mg/kg
Selenium	Lab	580 n mg/kg		< 1.4 mg/kg	< 1.3 mg/kg	< 1.2 mg/kg	< 1.2 mg/kg	< 1.1 mg/kg	< 1.3 mg/kg	< 1.1 mg/kg	< 1.2 mg/kg	< 1.1 mg/kg	< 1.1 mg/kg	< 1.1 mg/kg	< 1.3 mg/kg
Silver	Lab	580 n mg/kg		< 0.34 mg/kg	< 0.32 mg/kg	< 0.30 mg/kg	< 0.30 mg/kg	< 0.28 mg/kg	< 0.32 mg/kg	< 0.27 mg/kg	< 0.30 mg/kg	< 0.27 mg/kg	< 0.27 mg/kg	< 0.28 mg/kg	< 0.32 mg/kg
SVOCs															
1,2,4-Trichlorobenzene	Lab	26 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
1,2-Dichlorobenzene	Lab	930 ns mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
1,3-Dichlorobenzene	Lab			< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
1,4-Dichlorobenzene	Lab	11 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
2,3,4,6-Tetrachlorophenol	Lab	2500 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
2,4,5-Trichlorophenol	Lab	8200 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
2,4,6-Trichlorophenol	Lab	82 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
2,4-Dichlorophenol	Lab	250 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
2,4-Dimethylphenol	Lab	1600 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
2,4-Dinitrophenol	Lab	160 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
2,4-Dinitrotoluene	Lab	7.4 c* mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
2,6-Dichlorophenol	Lab			< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
2,6-Dinitrotoluene	Lab	1.5 c* mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
2-Chloronaphthalene	Lab	6000 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
2-Chlorophenol	Lab	580 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
2-Methyl-4,6-dinitrophenol	Lab	6.6 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
2-Methylnaphthalene	Lab	300 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
2-Methylphenol (o-cresol)	Lab	4100 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
2-Nitroaniline	Lab	800 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
2-Nitrophenol	Lab			< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
3,3'-Dichlorobenzidine	Lab	5.1 c mg/kg		< 2.2 mg/kg	< 2.1 mg/kg	< 1.9 mg/kg	< 1.9 mg/kg	< 1.8 mg/kg	< 2.1 mg/kg	< 1.7 mg/kg	< 1.9 mg/kg	< 1.8 mg/kg	< 1.8 mg/kg	< 1.8 mg/kg	< 2.0 mg/kg
3,4-Methylphenol (m,p cresols)	Lab			< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
3-Nitroaniline	Lab			< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
4-Bromophenyl phenyl ether	Lab			< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
4-Chloro-3-methylphenol	Lab	8200 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
4-Chloroaniline	Lab	11 c* mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
4-Chlorophenyl phenyl ether	Lab			< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
4-Nitroaniline	Lab	110 c** mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
4-Nitrophenol	Lab			< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
Acenaphthene	Lab	4500 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
Acenaphthylene	Lab			< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
Aniline	Lab	400 c** mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
Anthracene	Lab	23000 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
Azobenzene	Lab	26 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
Benz(a)anthracene	Lab	2.9 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
Benzydine	Lab	0.010 c mg/kg		< 3.4 mg/kg	< 3.2 mg/kg	< 3.0 mg/kg	< 3.0 mg/kg	< 2.8 mg/kg	< 3.2 mg/kg	< 2.7 mg/kg	< 3.0 mg/kg	< 2.7 mg/kg	< 2.7 mg/kg	< 2.8 mg/kg	< 3.2 mg/kg
Benzo(a)pyrene	Lab	0.29 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
Benzo(b)fluoranthene	Lab	2.9 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
Benzo(g,h,i)perylene	Lab			< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
Benzo(k)fluoranthene	Lab	29 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
Benzoic acid	Lab	330000 nm mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg
Benzyl alcohol	Lab	8200 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg
Bis(2-chloroethoxy)methane	Lab	250 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg

Table 2
Soil Analytical Data Summary
Mouse River
Minot, ND

				Location Date Depth	B-1 11/23/2015 10 - 12 ft	B-1 11/23/2015 16 - 18 ft	B-2a 11/24/2015 2 - 4 ft	B-2a 11/24/2015 4 - 6 ft	B-3 11/24/2015 0 - 2 ft	B-3 11/24/2015 6 - 8 ft	B-4 11/24/2015 2 - 4 ft	B-4 11/24/2015 8 - 10 ft	B-5 11/24/2015 0 - 2 ft	B-5 11/24/2015 6 - 8 ft	B-6 11/24/2015 0 - 2 ft	B-6 11/24/2015 6 - 8 ft
Parameter	Analysis Location	EPA Industrial Carcinogenic and Non-Carcinogenic RSL TR=1E-06 or THQ=0.1	NDDoH Guidelines for the Assessment and Cleanup of Saltwater Releases - Soil Cleanup Standards													
Effective Date		06/01/2015	12/01/2014													
Exceedance Key		Bold	No Exceed													
Bis(2-chloroethyl)ether	Lab	1.0 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Bis(2-chloroisopropyl)ether	Lab			< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Bis(2-ethylhexyl)phthalate	Lab	160 c* mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Butyl benzyl phthalate	Lab	1200 c* mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Carbazole	Lab			< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Chrysene	Lab	290 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Dibenz(a,h)anthracene	Lab	0.29 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Dibenzofuran	Lab	100 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Diethyl phthalate	Lab	66000 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Dimethyl phthalate	Lab			< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Di-n-butyl phthalate	Lab	8200 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Di-n-octyl phthalate	Lab	820 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Fluoranthene	Lab	3000 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Fluorene	Lab	3000 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Hexachlorobenzene	Lab	0.96 c* mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Hexachlorobutadiene	Lab	5.3 c* mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Hexachlorocyclopentadiene	Lab	0.75 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Hexachloroethane	Lab	8.0 c** mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Indeno(1,2,3-cd)pyrene	Lab	2.9 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Isophorone	Lab	2400 c** mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Naphthalene	Lab	17 c** mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Nitrobenzene	Lab	22 c** mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
N-Nitrosodimethylamine	Lab	0.034 c* mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
N-Nitrosodi-n-propylamine	Lab	0.33 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
N-Nitrosodiphenylamine	Lab	470 c mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Pentachlorophenol	Lab	4.0 c* mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg	
Phenanthrene	Lab			< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
Phenol	Lab	25000 n mg/kg		< 0.91 mg/kg	< 0.87 mg/kg	< 0.81 mg/kg	< 0.81 mg/kg	< 0.75 mg/kg	< 0.87 mg/kg	< 0.71 mg/kg	< 0.81 mg/kg	< 0.74 mg/kg	< 0.74 mg/kg	< 0.75 mg/kg	< 0.85 mg/kg	
Pyrene	Lab	2300 n mg/kg		< 0.45 mg/kg	< 0.43 mg/kg	< 0.40 mg/kg	< 0.40 mg/kg	< 0.37 mg/kg	< 0.43 mg/kg	< 0.35 mg/kg	< 0.40 mg/kg	< 0.36 mg/kg	< 0.36 mg/kg	< 0.37 mg/kg	< 0.42 mg/kg	
VOCs																
1,1,1,2-Tetrachloroethane	Lab	8.8 c mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,1,1-Trichloroethane	Lab	3600 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,1,2,2-Tetrachloroethane	Lab	2.7 c mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,1,2-Trichloroethane	Lab	0.63 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,1-Dichloro-1-propene	Lab			< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,1-Dichloroethane	Lab	16 c mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,1-Dichloroethylene	Lab	100 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,2,3-Trichlorobenzene	Lab	93 n mg/kg		< 0.68 mg/kg	< 0.65 mg/kg	< 0.60 mg/kg	< 0.60 mg/kg	< 0.53 mg/kg	< 0.65 mg/kg	< 0.53 mg/kg	< 0.60 mg/kg	< 0.52 mg/kg	< 0.55 mg/kg	< 0.56 mg/kg	< 0.63 mg/kg	
1,2,3-Trichloropropane	Lab	0.11 c* mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,2,4-Trichlorobenzene	Lab	26 n mg/kg		< 0.68 mg/kg	< 0.65 mg/kg	< 0.60 mg/kg	< 0.60 mg/kg	< 0.53 mg/kg	< 0.65 mg/kg	< 0.53 mg/kg	< 0.60 mg/kg	< 0.52 mg/kg	< 0.55 mg/kg	< 0.56 mg/kg	< 0.63 mg/kg	
1,2,4-Trimethylbenzene	Lab	24 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,2-Dibromo-3-chloropropane	Lab	0.064 c* mg/kg		< 0.68 mg/kg	< 0.65 mg/kg	< 0.60 mg/kg	< 0.60 mg/kg	< 0.53 mg/kg	< 0.65 mg/kg	< 0.53 mg/kg	< 0.60 mg/kg	< 0.52 mg/kg	< 0.55 mg/kg	< 0.56 mg/kg	< 0.63 mg/kg	
1,2-Dibromoethane	Lab	0.16 c mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,2-Dichlorobenzene	Lab	930 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,2-Dichloroethane	Lab	2.0 c** mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,2-Dichloroethylene, cis	Lab	230 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,2-Dichloroethylene, trans	Lab	2300 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,2-Dichloropropane	Lab	4.4 c** mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,3,5-Trimethylbenzene	Lab	1200 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,3-Dichloro-1-propene, cis	Lab	8.2 c** (1) mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,3-Dichloro-1-propene, trans	Lab	8.2 c** (1) mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,3-Dichlorobenzene	Lab			< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,3-Dichloropropane	Lab	2300 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
1,4-Dichlorobenzene	Lab	11 c mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	
2,2-Dichloropropane	Lab			< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg	

Table 2
Soil Analytical Data Summary
Mouse River
Minot, ND

Location Date Depth				B-1 11/23/2015 10 - 12 ft	B-1 11/23/2015 16 - 18 ft	B-2a 11/24/2015 2 - 4 ft	B-2a 11/24/2015 4 - 6 ft	B-3 11/24/2015 0 - 2 ft	B-3 11/24/2015 6 - 8 ft	B-4 11/24/2015 2 - 4 ft	B-4 11/24/2015 8 - 10 ft	B-5 11/24/2015 0 - 2 ft	B-5 11/24/2015 6 - 8 ft	B-6 11/24/2015 0 - 2 ft	B-6 11/24/2015 6 - 8 ft
Parameter	Analysis Location	EPA Industrial Carcinogenic and Non-Carcinogenic RSL TR=1E-06 or THQ=0.1	NDDoH Guidelines for the Assessment and Cleanup of Saltwater Releases - Soil Cleanup Standards												
Effective Date		06/01/2015	12/01/2014												
Exceedance Key		Bold	No Exceed												
Acetone	Lab	67000 n mg/kg		< 1.4 mg/kg	< 1.3 mg/kg	< 1.2 mg/kg	< 1.2 mg/kg	< 1.1 mg/kg	< 1.3 mg/kg	< 1.1 mg/kg	< 1.2 mg/kg	< 1.0 mg/kg	< 1.1 mg/kg	< 1.1 mg/kg	< 1.3 mg/kg
Allyl Chloride	Lab	0.69 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Benzene	Lab	5.1 c** mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Bromobenzene	Lab	180 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Bromochloromethane	Lab	63 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Bromodichloromethane	Lab	1.3 c mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Bromoform	Lab	86 c* mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Bromomethane	Lab	3.0 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Butyl benzene	Lab	5800 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Butylbenzene, sec	Lab	12000 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Butylbenzene, tert	Lab	12000 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Carbon tetrachloride	Lab	2.9 c* mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Chlorobenzene	Lab	130 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Chlorodibromomethane	Lab	3.3 c mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Chloroethane	Lab	5700 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Chloroform	Lab	1.4 c* mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Chloromethane	Lab	46 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Chlorotoluene, o	Lab	2300 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Chlorotoluene, p	Lab	2300 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Cumene (isopropyl benzene)	Lab	990 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Cymene p- (Toluene isopropyl p-)	Lab			< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Dibromomethane (methylene bromide)	Lab	9.8 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Dichlorodifluoromethane (CFC-12)	Lab	37 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Dichlorofluoromethane (CFC-21)	Lab			< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Ethyl benzene	Lab	25 c* mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Ethyl ether	Lab	23000 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Hexachlorobutadiene	Lab	5.3 c* mg/kg		< 0.68 mg/kg	< 0.65 mg/kg	< 0.60 mg/kg	< 0.60 mg/kg	< 0.53 mg/kg	< 0.65 mg/kg	< 0.53 mg/kg	< 0.60 mg/kg	< 0.52 mg/kg	< 0.55 mg/kg	< 0.56 mg/kg	< 0.63 mg/kg
Methyl ethyl ketone (2-butanone)	Lab	19000 n mg/kg		< 1.4 mg/kg	< 1.3 mg/kg	< 1.2 mg/kg	< 1.2 mg/kg	< 1.1 mg/kg	< 1.3 mg/kg	< 1.1 mg/kg	< 1.2 mg/kg	< 1.0 mg/kg	< 1.1 mg/kg	< 1.1 mg/kg	< 1.3 mg/kg
Methyl isobutyl ketone (MIBK)	Lab	5600 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Methyl tertiary butyl ether (MTBE)	Lab	210 c* mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Methylene chloride	Lab	320 n mg/kg		< 0.68 mg/kg	< 0.65 mg/kg	< 0.60 mg/kg	< 0.60 mg/kg	< 0.53 mg/kg	< 0.65 mg/kg	< 0.53 mg/kg	< 0.60 mg/kg	< 0.52 mg/kg	< 0.55 mg/kg	< 0.56 mg/kg	< 0.63 mg/kg
Naphthalene	Lab	17 c** mg/kg		< 0.68 mg/kg	< 0.65 mg/kg	< 0.60 mg/kg	< 0.60 mg/kg	< 0.53 mg/kg	< 0.65 mg/kg	< 0.53 mg/kg	< 0.60 mg/kg	< 0.52 mg/kg	< 0.55 mg/kg	< 0.56 mg/kg	< 0.63 mg/kg
Propylbenzene	Lab	2400 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Styrene	Lab	3500 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Tetrachloroethylene	Lab	39 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Tetrahydrofuran	Lab	9600 n mg/kg		< 1.4 mg/kg	< 1.3 mg/kg	< 1.2 mg/kg	< 1.2 mg/kg	< 1.1 mg/kg	< 1.3 mg/kg	< 1.1 mg/kg	< 1.2 mg/kg	< 1.0 mg/kg	< 1.1 mg/kg	< 1.1 mg/kg	< 1.3 mg/kg
Toluene	Lab	4700 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Trichloroethylene	Lab	1.9 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Trichlorofluoromethane	Lab	310 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Trichlorotrifluoroethane (Freon 113)	Lab	17000 ns mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Vinyl chloride	Lab	1.7 c* mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Xylene, m & p	Lab	240 n (2) mg/kg		< 0.54 mg/kg	< 0.52 mg/kg	< 0.48 mg/kg	< 0.48 mg/kg	< 0.42 mg/kg	< 0.52 mg/kg	< 0.43 mg/kg	< 0.48 mg/kg	< 0.41 mg/kg	< 0.44 mg/kg	< 0.45 mg/kg	< 0.51 mg/kg
Xylene, o	Lab	280 n mg/kg		< 0.27 mg/kg	< 0.26 mg/kg	< 0.24 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.26 mg/kg	< 0.21 mg/kg	< 0.24 mg/kg	< 0.21 mg/kg	< 0.22 mg/kg	< 0.22 mg/kg	< 0.25 mg/kg
Xylene, Total	Barr Calcuation	280 ns mg/kg		ND mg/kg	ND mg/kg	ND mg/kg	ND mg/kg	ND mg/kg	ND mg/kg	ND mg/kg	ND mg/kg	ND mg/kg	ND mg/kg	ND mg/kg	ND mg/kg
Total Petroleum Hydrocarbons															
Diesel Range Organics, C10-C28	Lab		100 ** mg/kg	< 11 mg/kg	< 10 mg/kg	< 9.6 mg/kg	< 9.6 mg/kg	30 mg/kg	< 10 mg/kg	< 8.5 mg/kg	< 9.6 mg/kg	13 mg/kg	< 8.8 mg/kg	< 9.0 mg/kg	< 10 mg/kg
Gasoline Range Organics, C6-C10	Lab		100 ** mg/kg	< 6.8 mg/kg	< 6.5 mg/kg	< 6.0 mg/kg	< 6.0 mg/kg	< 5.3 mg/kg	< 6.5 mg/kg	< 5.3 mg/kg	< 6.0 mg/kg	< 5.2 mg/kg	< 5.5 mg/kg	< 5.6 mg/kg	< 6.3 mg/kg

Table 1
Water Analytical Data Summary
Mouse River
Minot, ND

Location							B-1	B-2A		B-3	B-4
Date							11/24/2015	11/25/2015		11/24/2015	11/25/2015
Depth							10 - 20 ft	9.87 - 19.87 ft	9.87 - 19.87 ft	8.6 - 18.6 ft	8.6 - 18.6 ft
Sample Type							N	N	FD	N	N
Parameter	Analysis Location	EPA Secondary Drinking Water Regulations	NDDoH Guidelines for the Assessment and Cleanup of Saltwater Releases - Groundwater Cleanup Standards	EPA Maximum Contaminant Levels	ND Water Quality Criteria (1) - Human Health Values, Class 1	ND Maximum Limits for Substances in or Characteristics of Class 1 Streams - Chronic					
Effective Date		06/20/2002	12/01/2014	05/01/2009	06/01/2001	06/01/2001					
Exceedance Key		No Exceed	Underline	Italic	Shade	Bold					
General Parameters											
Dissolved oxygen	Field					5 mg/l	18.7 mg/l	31.67 mg/l	--	5.21 mg/l	4.52 mg/l
pH	Field	6.5 - 8.5 pH units				7.0 - 9.0 pH units	6.77 pH units	6.84 pH units	--	6.63 pH units	7.27 pH units
Specific Conductance @ 25 °C	Field		1500 *** umhos/cm				1598 umhos/cm	3029 umhos/cm	--	3447 umhos/cm	2196 umhos/cm
Temperature	Field					29.44 deg C	6.5 deg C	6.00 deg C	--	10.21 deg C	9.75 deg C
Metals (Dissolved)											
Arsenic	Lab		0.01 * mg/l	0.01 mg/l	0.01 (7) T mg/l		--	< 0.010 mg/l	< 0.010 mg/l	< 0.010 mg/l	< 0.010 mg/l
Barium	Lab		2 * mg/l	2 mg/l		1.0 T mg/l	--	0.087 mg/l	0.097 mg/l	0.050 mg/l	0.15 mg/l
Cadmium	Lab		0.005 * mg/l	0.005 mg/l	0.005 (7) T mg/l		--	< 0.0010 mg/l	< 0.0010 mg/l	< 0.0010 mg/l	< 0.0010 mg/l
Chromium	Lab		0.1 * mg/l	0.1 mg/l			--	< 0.010 mg/l	< 0.010 mg/l	< 0.010 mg/l	< 0.010 mg/l
Lead	Lab		0.015 * mg/l	0.015 TT (7) mg/l	0.015 (7) T mg/l		--	0.012 mg/l	0.0068 mg/l	0.014 mg/l	< 0.0050 mg/l
Mercury	Lab		0.002 * mg/l	0.002 mg/l	0.000050 T mg/l		--	< 0.010 mg/l	< 0.010 mg/l	< 0.010 mg/l	< 0.010 mg/l
Selenium	Lab		0.05 * mg/l	0.05 mg/l	0.05 (7) T mg/l		--	< 0.030 mg/l	< 0.030 mg/l	< 0.030 mg/l	< 0.030 mg/l
Silver	Lab	0.1 mg/l	0.1 ** mg/l				--	< 0.0050 mg/l	< 0.0050 mg/l	< 0.0050 mg/l	< 0.0050 mg/l
SVOCs											
1,2,4-Trichlorobenzene	Lab			70 ug/l	35 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
1,2-Dichlorobenzene	Lab			600 ug/l	420 (7) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
1,3-Dichlorobenzene	Lab				320 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
1,4-Dichlorobenzene	Lab			75 ug/l	63 (7) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2,3,4,6-Tetrachlorophenol	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2,4,5-Trichlorophenol	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2,4,6-Trichlorophenol	Lab				1.4 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2,4-Dichlorophenol	Lab				77 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2,4-Dimethylphenol	Lab				380 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2,4-Dinitrophenol	Lab				69 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2,4-Dinitrotoluene	Lab				0.11 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2,6-Dichlorophenol	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2,6-Dinitrotoluene	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2-Chloronaphthalene	Lab				1000 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2-Chlorophenol	Lab				81 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2-Methyl-4,6-dinitrophenol	Lab				13 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2-Methylnaphthalene	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2-Methylphenol (o-cresol)	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2-Nitroaniline	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
2-Nitrophenol	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
3,3'-Dichlorobenzidine	Lab				0.021 (4) ug/l		< 23 ug/l	< 23 ug/l	< 24 ug/l	< 25 ug/l	< 25 ug/l
3,4-Methylphenol (m,p cresols)	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
3-Nitroaniline	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
4-Bromophenyl phenyl ether	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
4-Chloro-3-methylphenol	Lab				3000 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
4-Chloroaniline	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
4-Chlorophenyl phenyl ether	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
4-Nitroaniline	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
4-Nitrophenol	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
Acenaphthene	Lab				670 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
Acenaphthylene	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
Aniline	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
Anthracene	Lab				8300 (5) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
Azobenzene	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
Benz(a)anthracene	Lab				0.0038 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l
Benzdine	Lab				0.000086 (4) ug/l		< 93 ug/l	< 93 ug/l	< 94 ug/l	< 100 ug/l	< 100 ug/l
Benzo(a)pyrene	Lab			0.2 ug/l	0.0038 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l

Table 1
Water Analytical Data Summary
Mouse River
Minot, ND

							Location	B-1	B-2A		B-3	B-4
							Date	11/24/2015	11/25/2015		11/24/2015	11/25/2015
								10 - 20 ft	9.87 - 19.87 ft	9.87 - 19.87 ft	8.6 - 18.6 ft	8.6 - 18.6 ft
									Sample Type	N	N	FD
Parameter	Analysis Location	EPA Secondary Drinking Water Regulations	NDDoH Guidelines for the Assessment and Cleanup of Saltwater Releases - Groundwater Cleanup Standards	EPA Maximum Contaminant Levels	ND Water Quality Criteria (1) - Human Health Values, Class 1	ND Maximum Limits for Substances in or Characteristics of Class 1 Streams - Chronic						
Effective Date		06/20/2002	12/01/2014	05/01/2009	06/01/2001	06/01/2001						
Exceedance Key		No Exceed	Underline	Italic	Shade	Bold						
Benzo(b)fluoranthene	Lab				0.0038 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Benzo(g,h,i)perylene	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Benzo(k)fluoranthene	Lab				0.0038 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Benzoic acid	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Benzyl alcohol	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Bis(2-chloroethoxy)methane	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Bis(2-chloroethyl)ether	Lab				0.030 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Bis(2-chloroisopropyl)ether	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Bis(2-ethylhexyl)phthalate	Lab			6 ug/l	1.2 (4) ug/l		9.8 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Butyl benzyl phthalate	Lab				1500 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Carbazole	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Chrysene	Lab				0.0038 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Dibenz(a,h)anthracene	Lab				0.0038 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Dibenzofuran	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Diethyl phthalate	Lab				17000 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Dimethyl phthalate	Lab				270000 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Di-n-butyl phthalate	Lab				2000 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Di-n-octyl phthalate	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Fluoranthene	Lab				130 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Fluorene	Lab				1100 (5) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Hexachlorobenzene	Lab			1 ug/l	0.00028 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Hexachlorobutadiene	Lab				0.44 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Hexachlorocyclopentadiene	Lab			50 ug/l	40 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Hexachloroethane	Lab				1.4 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Indeno(1,2,3-cd)pyrene	Lab				0.0038 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Isophorone	Lab				35 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Naphthalene	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Nitrobenzene	Lab				17 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
N-Nitrosodimethylamine	Lab				0.00069 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
N-Nitrosodi-n-propylamine	Lab				0.005 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
N-Nitrosodiphenylamine	Lab				3.3 (4) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Pentachlorophenol	Lab			1 ug/l	0.27 ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Phenanthrene	Lab						< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Phenol	Lab				10000 ug/l	300 ug/l	< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
Pyrene	Lab				830 (5) ug/l		< 9.3 ug/l	< 9.3 ug/l	< 9.4 ug/l	< 10 ug/l	< 10 ug/l	
VOCs												
1,1,1,2-Tetrachloroethane	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,1,1-Trichloroethane	Lab			200 ug/l	200 (7) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,1,2,2-Tetrachloroethane	Lab				0.17 (4) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,1,2-Trichloroethane	Lab			5 ug/l	0.59 (4) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,1-Dichloro-1-propene	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,1-Dichloroethane	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,1-Dichloroethylene	Lab			7 ug/l	7 (7) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,2,3-Trichlorobenzene	Lab						< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
1,2,3-Trichloropropane	Lab						< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	
1,2,4-Trichlorobenzene	Lab			70 ug/l	35 ug/l		< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
1,2,4-Trimethylbenzene	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,2-Dibromo-3-chloropropane	Lab			0.2 ug/l			< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
1,2-Dibromoethane	Lab			0.05 ug/l	0.05 (7) ug/l		< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	
1,2-Dichlorobenzene	Lab			600 ug/l	420 (7) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,2-Dichloroethane	Lab			5 ug/l	0.38 (4) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,2-Dichloroethylene, cis	Lab			70 ug/l	70 (7) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,2-Dichloroethylene, trans	Lab			100 ug/l	100 (7) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	

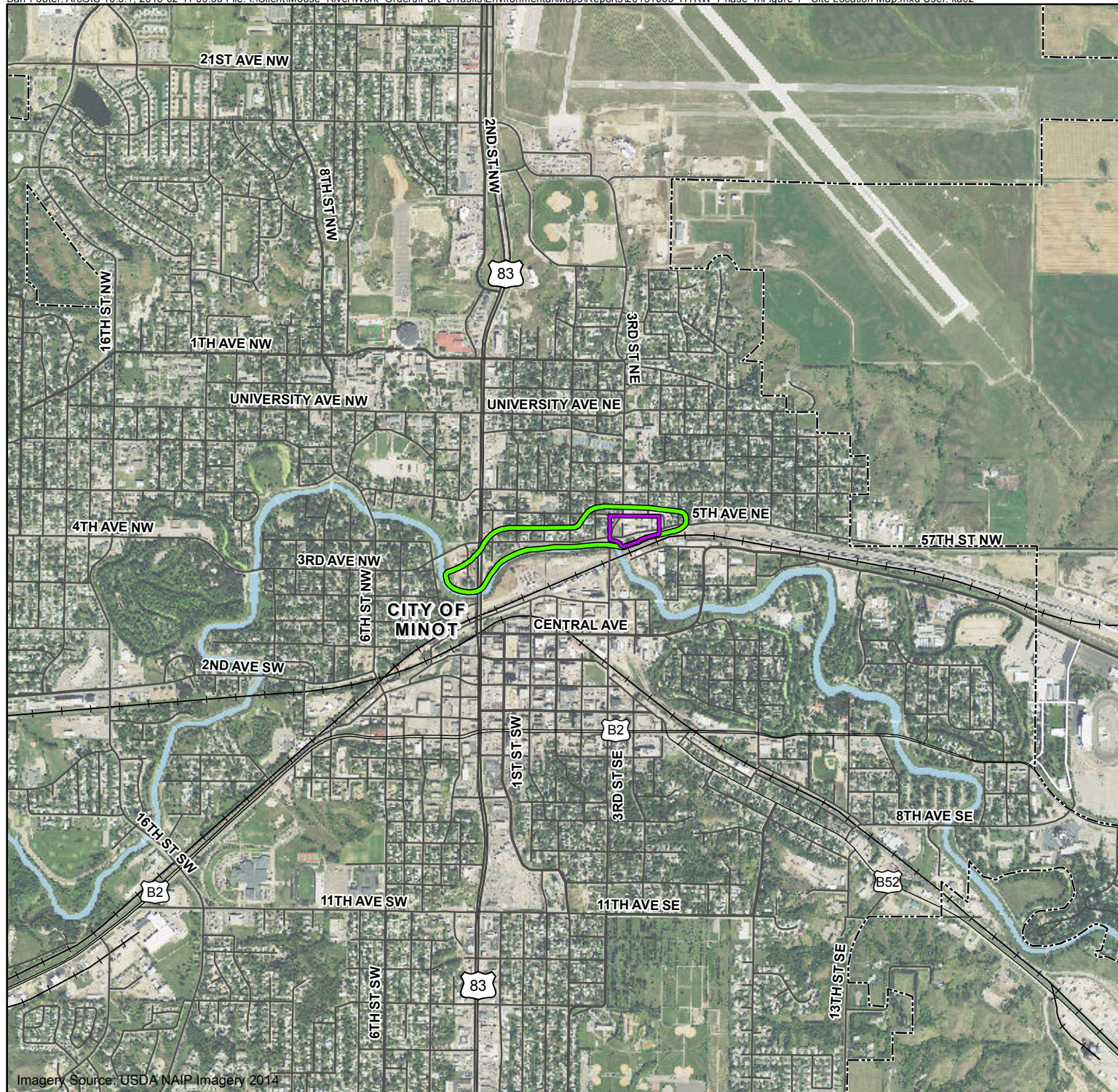
Table 1
Water Analytical Data Summary
Mouse River
Minot, ND

							Location	B-1	B-2A		B-3	B-4
							Date	11/24/2015	11/25/2015		11/24/2015	11/25/2015
								10 - 20 ft	9.87 - 19.87 ft	9.87 - 19.87 ft	8.6 - 18.6 ft	8.6 - 18.6 ft
									N	N	FD	N
Parameter	Analysis Location	EPA Secondary Drinking Water Regulations	NDDoH Guidelines for the Assessment and Cleanup of Saltwater Releases - Groundwater Cleanup Standards	EPA Maximum Contaminant Levels	ND Water Quality Criteria (1) - Human Health Values, Class 1	ND Maximum Limits for Substances in or Characteristics of Class 1 Streams - Chronic						
Effective Date		06/20/2002	12/01/2014	05/01/2009	06/01/2001	06/01/2001						
Exceedance Key		No Exceed	Underline	Italic	Shade	Bold						
1,2-Dichloropropane	Lab			5 ug/l	0.50 ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,3,5-Trimethylbenzene	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,3-Dichloro-1-propene, cis	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,3-Dichloro-1-propene, trans	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,3-Dichlorobenzene	Lab				320 ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,3-Dichloropropane	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
1,4-Dichlorobenzene	Lab			75 ug/l	63 (7) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
2,2-Dichloropropane	Lab						< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
Acetone	Lab						< 20 ug/l	< 20 ug/l	< 20 ug/l	< 20 ug/l	< 20 ug/l	
Allyl Chloride	Lab						< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
Benzene	Lab		5 * ug/l	5 ug/l	2.2 (4) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Bromobenzene	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Bromochloromethane	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Bromodichloromethane	Lab			80 (6) ug/l	0.55 (5) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Bromoform	Lab			80 (6) ug/l	4.3 (5) ug/l		< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
Bromomethane	Lab				47 ug/l		< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
Butyl benzene	Lab						< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	
Butylbenzene, sec	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Butylbenzene, tert	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Carbon tetrachloride	Lab			5 ug/l	0.23 (4) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Chlorobenzene	Lab			100 ug/l	100 (7) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Chlorodibromomethane	Lab			80 (6) ug/l	0.40 (5) ug/l		< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	
Chloroethane	Lab						< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	
Chloroform	Lab			80 (6) ug/l	5.7 (4) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Chloromethane	Lab						< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	
Chlorotoluene, o	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Chlorotoluene, p	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Cumene (isopropyl benzene)	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Cymene p- (Toluene isopropyl p-)	Lab						< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	
Dibromomethane (methylene bromide)	Lab						< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	< 2.5 ug/l	
Dichlorodifluoromethane (CFC-12)	Lab						< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
Dichlorofluoromethane (CFC-21)	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Ethyl benzene	Lab			700 ug/l	530 (7) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Ethyl ether	Lab						< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
Hexachlorobutadiene	Lab				0.44 (4) ug/l		< 10 ug/l	< 10 ug/l	< 10 ug/l	< 10 ug/l	< 10 ug/l	
Methyl ethyl ketone (2-butanone)	Lab						< 20 ug/l	< 20 ug/l	< 20 ug/l	< 20 ug/l	< 20 ug/l	
Methyl isobutyl ketone (MIBK)	Lab						< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
Methyl tertiary butyl ether (MTBE)	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Methylene chloride	Lab			5 ug/l	4.6 (4) ug/l		< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
Naphthalene	Lab						< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	< 5.0 ug/l	
Propylbenzene	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Styrene	Lab			100 ug/l	100 (7) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Tetrachloroethylene	Lab			5 ug/l	0.69 (4) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Tetrahydrofuran	Lab						< 20 ug/l	< 20 ug/l	< 20 ug/l	< 20 ug/l	< 20 ug/l	
Toluene	Lab			1000 ug/l	1000 (7) ug/l		< 1.0 ug/l	1.1 ug/l	1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Trichloroethylene	Lab			5 ug/l	2.5 (4) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Trichlorofluoromethane	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Trichlorotrifluoroethane (Freon 113)	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Vinyl chloride	Lab			2 ug/l	0.025 (4) ug/l		< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Xylene, m & p	Lab						< 2.0 ug/l	< 2.0 ug/l	< 2.0 ug/l	< 2.0 ug/l	< 2.0 ug/l	
Xylene, o	Lab						< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	< 1.0 ug/l	
Xylene, Total	Barr Calculation			1000 ug/l	10000 (7) ug/l		ND ug/l	ND ug/l	ND ug/l	ND ug/l	ND ug/l	
Total Petroleum Hydrocarbons												

Table 1
Water Analytical Data Summary
Mouse River
Minot, ND

Location							B-1	B-2A		B-3	B-4
Date							11/24/2015	11/25/2015		11/24/2015	11/25/2015
Depth							10 - 20 ft	9.87 - 19.87 ft	9.87 - 19.87 ft	8.6 - 18.6 ft	8.6 - 18.6 ft
Sample Type							N	N	FD	N	N
Parameter	Analysis Location	EPA Secondary Drinking Water Regulations	NDDoH Guidelines for the Assessment and Cleanup of Saltwater Releases - Groundwater Cleanup Standards	EPA Maximum Contaminant Levels	ND Water Quality Criteria (1) - Human Health Values, Class 1	ND Maximum Limits for Substances in or Characteristics of Class 1 Streams - Chronic					
Effective Date		06/20/2002	12/01/2014	05/01/2009	06/01/2001	06/01/2001					
Exceedance Key		No Exceed	Underline	Italic	Shade	Bold					
Diesel Range Organics, C10-C28	Lab		40 **** ug/l				120 ug/l	130 ug/l	190 ug/l	210 ug/l	110 ug/l
Gasoline Range Organics, C6-C10	Lab		10 **** ug/l				< 100 ug/l	< 100 ug/l	< 100 ug/l	< 100 ug/l	< 100 ug/l

Figures



-  4th Ave. Floodwall HTRW Assessment Area (2015)
-  Site
-  Municipalities
-  Mouse River

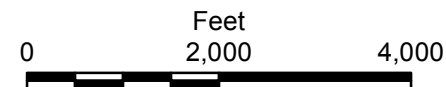
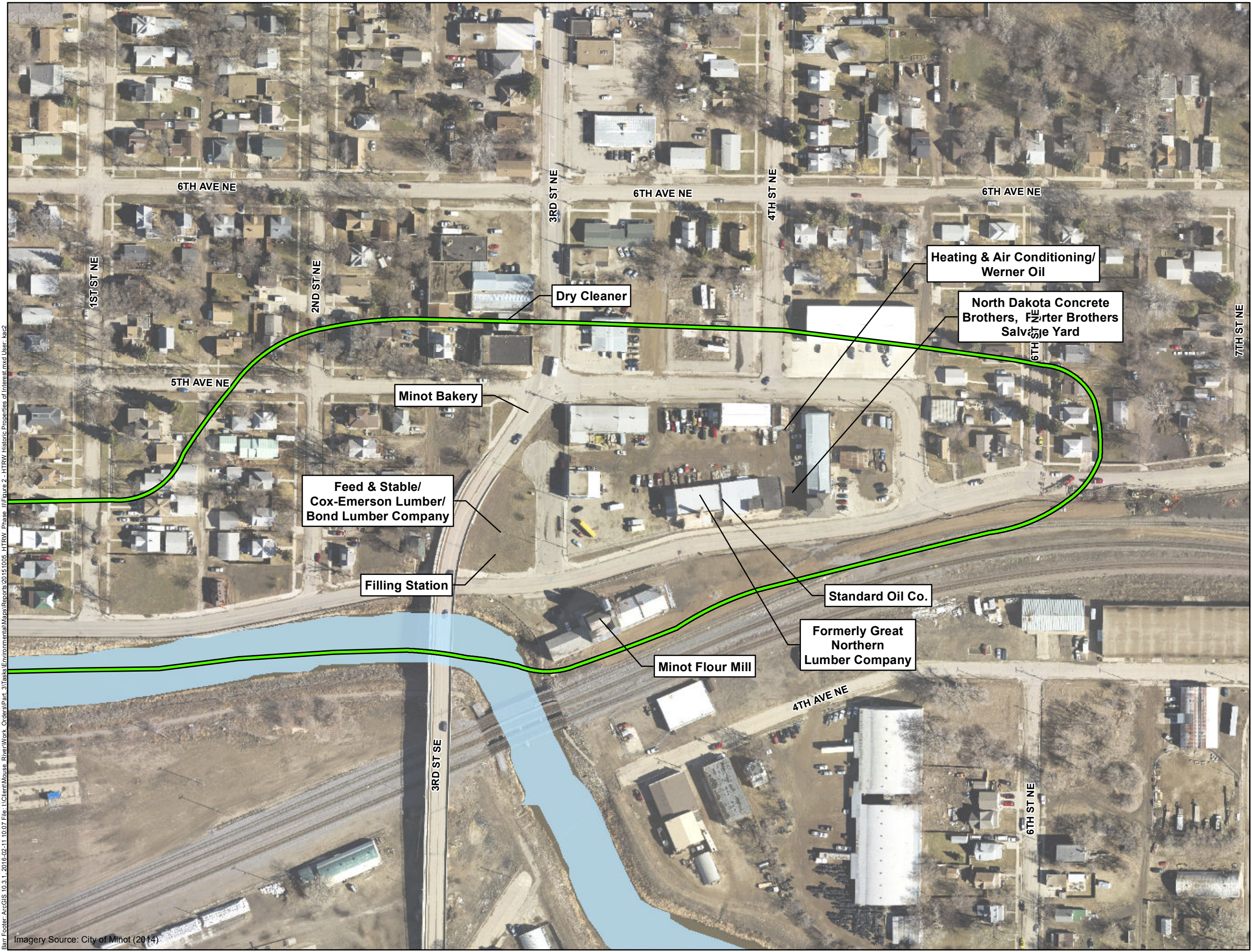


Figure 1
SITE LOCATION MAP
Mouse River Project



4th Ave. Floodwall HTRW
Assessment Area (2015)

* All locations are approximate

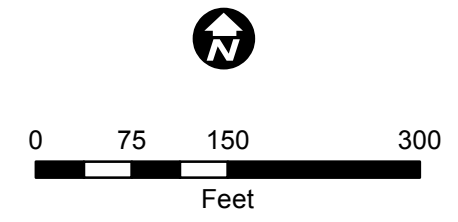
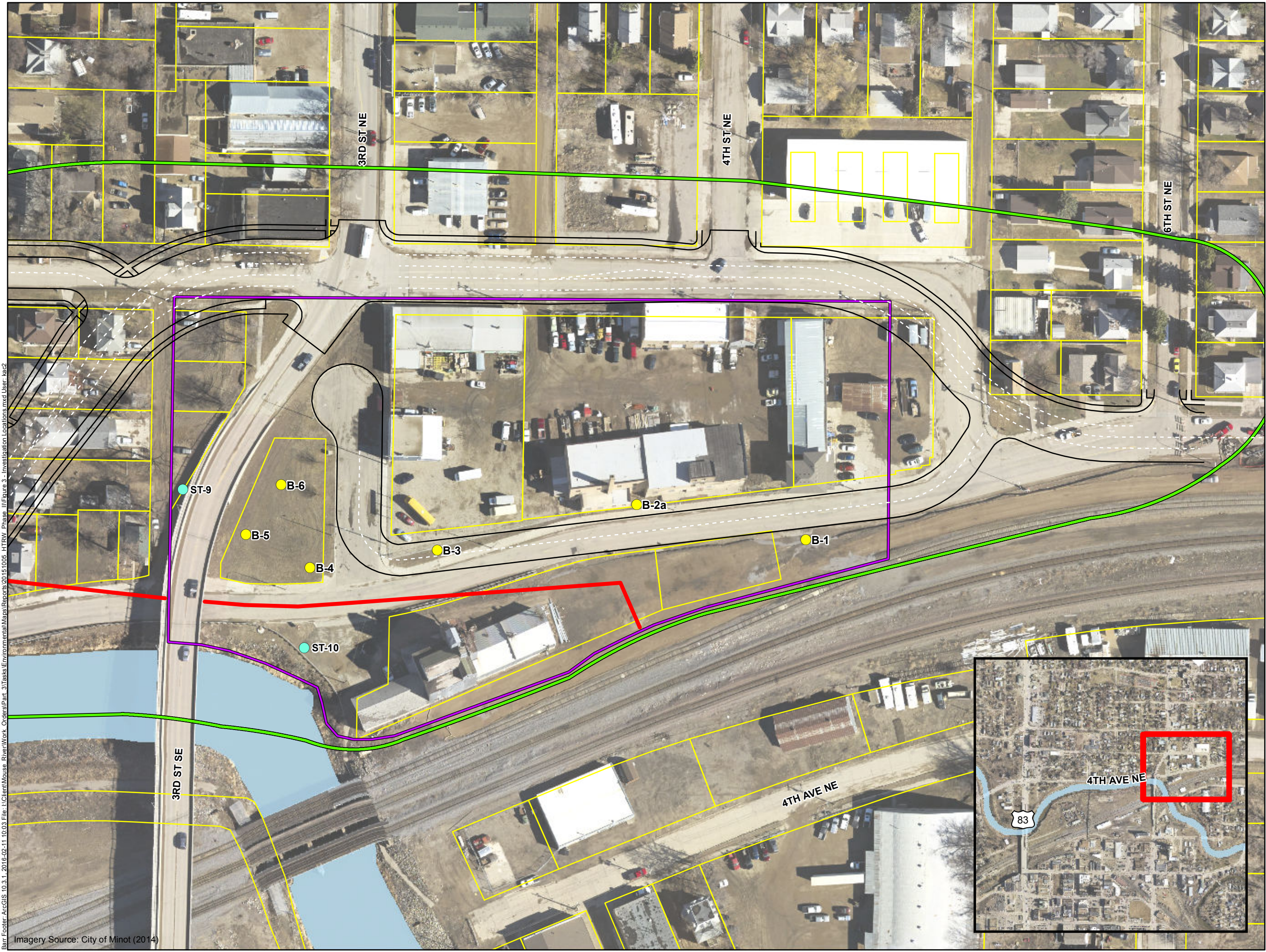


Figure 2
HTRW HISTORIC PROPERTIES
OF INTEREST
Mouse River Project



4th Ave. Floodwall HTRW Assessment Area (2015)

Site

Investigation Locations

Braun Geotech Boring (2015)

Proposed 4th Avenue Features (July 9, 2015)

Floodwalls

Pavement

Parcel Boundary



0 45 90 180
Feet

Figure 3
INVESTIGATION LOCATIONS
Mouse River Project

Appendices

Appendix A

Boring Logs



Barr Engineering Company
234 West Century Avenue
Bismarck, ND 58503
Telephone: 701-255-5460

LOG OF BORING B-1

SHEET 1 OF 1

Project: Mouse River
Project No.: 34511010
Location: Minot, ND
Coordinates: N 453,453.0 ft E 1,776,991.0 ft
Datum: NAD83 - StatePlane North Dakota North Feet

Surface Elevation: N/A
Drilling Method: Push
Sampling Method: Continuous
Completion Depth: 20.0 ft

Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	Graphic Log	LITHOLOGIC DESCRIPTION	MAJOR UNIT	Elevation, feet
0			PID: 0.0 ppm D/O/S: None/ None/ None	GC	GRAVEL WITH SANDY CLAY (GC): coarse grained; very dark gray (3/1/7.5YR); moist; 60% gravel, 20% sand, 20% fines. At 1-2.5': SANDY CLAY WITH GRAVEL, low plasticity.	FILL	
			PID: 0.0 ppm D/O/S: None/ None/ None	SW-SC	GRAVELLY SAND WITH CLAY (SW-SC): coarse grained; black (2/1/10YR); moist; 20% gravel, 60% sand, 20% fines.		
5			PID: 0.0 ppm D/O/S: None/ None/ None		At 7': Damp, trace oxidization staining.		
			PID: 0.0 ppm D/O/S: None/ Sulfuric/ None	CH	FAT CLAY (CH): black (2/1/10YR); 0% gravel, 10% sand, 90% fines, damp, high plasticity.		
10		10-12	PID: 0.0 ppm D/O/S: None/ None/ None	CH	FAT CLAY (NATIVE) (CH): very dark greenish gray (3/10Y/Gley 1); dry; high plasticity; 0% gravel, 10% sand, 90% fines, abundant roots, shells, some fine sand stringers.	NATIVE	
			PID: 0.0 ppm D/O/S: None/ None/ None				
15		16-18	PID: 0.0 ppm D/O/S: None/ None/ None				
			PID: 0.0 ppm D/O/S: None/ None/ None		End of boring 20.0 feet		
20							

Date Boring Started: 11/23/15 2:00 pm
Date Boring Completed: 11/23/15 2:30 pm
Logged By: AMK2
Drilling Contractor: Stevens
Drill Rig: Track Rig

Remarks:
Background PID: 0.00 ppm

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected
Additional data may have been collected in the field which is not included on this log.
Weather: 33°F, 10 mph W wind

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Barr Engineering Company
234 West Century Avenue
Bismarck, ND 58503
Telephone: 701-255-5460

LOG OF BORING B-2a

SHEET 1 OF 1

Project: Mouse River
Project No.: 34511010
Location: Minot, ND
Coordinates: N 453,488.0 ft E 1,776,824.0 ft
Datum: NAD83 - StatePlane North Dakota North Feet

Surface Elevation: N/A
Drilling Method: Push
Sampling Method: Continuous
Completion Depth: 20.0 ft

Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	SCUC	Graphic Log	LITHOLOGIC DESCRIPTION	MAJOR UNIT	Elevation, feet
0			PID: 1.4 ppm D/O/S: None/ None/ None	CH		SANDY FAT CLAY (CH): fine grained; dark brown (3/2/7.5YR); moist; low to medium plasticity; 10% gravel, 30% sand, 60% fines, some rounded gravel, trace roots. At 1': Sandier, color change to black (2.5/1/7.5YR).	FILL	
2-4			PID: 0.3 ppm D/O/S: None/ None/ None			At 3': Less sand.		
5		4-6	PID: 0.3 ppm D/O/S: None/ None/ None	CH		FAT CLAY (CH): dark grayish brown (4/2/10YR); high plasticity; 0% gravel, 10% sand, 90% fines, native, trace fine sand stringers.		
			PID: 0.3 ppm D/O/S: None/ None/ None			WELL SORTED SAND (SW-SC): fine grained; dark grayish brown (4/2/10YR); moist; 0% gravel, 90% sand, 10% fines, loose, some clay.		
10			PID: 0.4 ppm D/O/S: None/ None/ None			At 11': Groundwater.	NATIVE	
			PID: 0.4 ppm D/O/S: None/ None/ None	SW-SC		At 15': Coarser sand.		
15			PID: 0.6 ppm D/O/S: None/ None/ None			At 18': Gradual color change to dark greenish gray (4/10Y/Gley 1).		
20			PID: 0.5 ppm D/O/S: None/ None/ None			End of boring 20.0 feet		

Date Boring Started: 11/24/15 7:50 am
Date Boring Completed: 11/24/15 8:20 am
Logged By: AMK2
Drilling Contractor: Stevens
Drill Rig: Track Rig

Remarks:
Background PID: 0.00 ppm

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected
Additional data may have been collected in the field which is not included on this log.
Weather: 27°F, calm, overcast, cloudy

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Barr Engineering Company
234 West Century Avenue
Bismarck, ND 58503
Telephone: 701-255-5460

LOG OF BORING B-3

SHEET 1 OF 1

Project: Mouse River
Project No.: 34511010
Location: Minot, ND
Coordinates: N 453,443.0 ft E 1,776,627.0 ft
Datum: NAD83 - StatePlane North Dakota North Feet

Surface Elevation: N/A
Drilling Method: Push
Sampling Method: Continuous
Completion Depth: 20.0 ft

Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	Graphic Log	LITHOLOGIC DESCRIPTION	MAJOR UNIT	Elevation, feet
0							
		0-2	PID: 0.1 ppm D/O/S: None/ None/ None	CH	SANDY FAT CLAY WITH GRAVEL (CH): very dark gray (3/1/10YR); moist; medium to high plasticity; 20% gravel, 20% sand, 60% fines, rounded.	FILL	
			PID: 0.1 ppm D/O/S: None/ None/ None	SC	CLAYEY SAND (SC): fine grained; light reddish brown (6/3/2.5Y); moist; 0% gravel, 70% sand, 30% fines, well sorted. At 3': Oxidization staining, gradual color change to dark gray (4/1/2.5Y).		
5			PID: 0.1 ppm D/O/S: None/ None/ None	CH	SANDY FAT CLAY (CH): light olive brown (5/4/2.5Y); moist; medium plasticity; 0% gravel, 40% sand, 60% fines, trace oxidization staining. At 6': Color change to dark olive brown (3/3/2.5Y).		
		6-8	PID: 0.0 ppm D/O/S: None/ None/ None				
			PID: 0.1 ppm D/O/S: None/ None/ None		SAND WITH CLAY (SP-SC): fine grained; olive brown (4/3/2.5Y); moist; 0% gravel, 80% sand, 20% fines, well sorted, trace white stringers of silt, trace oxidization mottling, soft. At 10': Groundwater.		
10			PID: 0.2 ppm D/O/S: None/ None/ None				
			PID: 0.2 ppm D/O/S: None/ None/ None				
			PID: 0.1 ppm D/O/S: None/ None/ None	SP-SC	At 14-15': Color change to dark gray (4/1/2.5Y).		
15			PID: 0.2 ppm D/O/S: None/ None/ None		At 15': Mustard yellow color. At 15.5-16': Heavily oxidization stained.		
			PID: 0.2 ppm D/O/S: None/ None/ None		At 17': Mustard yellow color. At 17-17.5': Heavy oxidization stained. At 17.5': Coarser sand.		
20			PID: 0.0 ppm D/O/S: None/ None/ None				
					End of boring 20.0 feet		

Date Boring Started: 11/24/15 10:00 am
Date Boring Completed: 11/24/15 10:30 am
Logged By: AMK2
Drilling Contractor: Stevens
Drill Rig: Track Rig

Remarks:
Background PID: 0.00 ppm

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected
Additional data may have been collected in the field which is not included on this log.
Weather: 27°F, calm, overcast, cloudy

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Barr Engineering Company
234 West Century Avenue
Bismarck, ND 58503
Telephone: 701-255-5460

LOG OF BORING B-4

SHEET 1 OF 1

Project: Mouse River
Project No.: 34511010
Location: Minot, ND
Coordinates: N 453,426.0 ft E 1,776,501.0 ft
Datum: NAD83 - StatePlane North Dakota North Feet

Surface Elevation: N/A
Drilling Method: Push
Sampling Method: Continuous
Completion Depth: 20.0 ft

Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	SSC	Graphic Log	LITHOLOGIC DESCRIPTION	MAJOR UNIT	Elevation, feet
0			PID: 0.2 ppm D/O/S: None/ None/ None			GRAVEL WITH CLAY (GC): dark olive brown (3/3/2.5Y); moist; 40% gravel, 30% sand, 30% fines, rounded, poorly sorted.		
2-4			PID: 0.3 ppm D/O/S: None/ None/ None	GC			FILL	
5			PID: 0.3 ppm D/O/S: None/ None/ None			At 6': 4" concrete, poorly cemented.		
8-10			PID: 0.2 ppm D/O/S: None/ None/ None			CLAYEY SAND (SC): fine grained; dark grayish brown (4/2/2.5Y); moist; 0% gravel, 30% sand, 70% fines, trace white silt stringers, some oxidization staining.		
10			PID: 0.2 ppm D/O/S: None/ None/ None			At 10': Groundwater. At 10-11': Coarser sand.		
15			PID: 0.1 ppm D/O/S: None/ None/ None	SC			NATIVE	
			PID: 0.1 ppm D/O/S: None/ None/ None					
			PID: 0.1 ppm D/O/S: None/ None/ None			At 17': Gradual color change to dark greenish gray (4/10Y/Gley 1).		
20			PID: 0.1 ppm D/O/S: None/ None/ None					
						End of boring 20.0 feet		

Date Boring Started: 11/24/15 11:00 am
Date Boring Completed: 11/24/15 11:30 am
Logged By: AMK2
Drilling Contractor: Stevens
Drill Rig: Track Rig

Remarks:
Background PID: 0.3 ppm

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected
Additional data may have been collected in the field which is not included on this log.
Weather: 27°F, calm, overcast, cloudy

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Barr Engineering Company
234 West Century Avenue
Bismarck, ND 58503
Telephone: 701-255-5460

LOG OF BORING B-5

SHEET 1 OF 1

Project: Mouse River
Project No.: 34511010
Location: Minot, ND
Coordinates: N 453,458.0 ft E 1,776,438.0 ft
Datum: NAD83 - StatePlane North Dakota North Feet

Surface Elevation: N/A
Drilling Method: Push
Sampling Method: Continuous
Completion Depth: 8.0 ft

Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	SSC	Graphic Log	LITHOLOGIC DESCRIPTION	MAJOR UNIT	Elevation, feet
0.0								
		0-2	PID: 0.0 ppm D/O/S: None/ None/ None	CH		SANDY FAT CLAY WITH GRAVEL (CH): fine grained; light olive brown (5/4/2.5Y); medium plasticity; 20% gravel, 20% sand, 60% fines, rounded.	FILL	
2.5			PID: 0.0 ppm D/O/S: None/ None/ None			SANDY FAT CLAY (CH): very dark grayish brown (3/2/2.5Y); medium plasticity; 0% gravel, 20% sand, 80% fines, trace white silt. At 1-2': Roots.		
						At 3': Color change to light olive brown (5/4/2.5Y).		
5.0			PID: 0.0 ppm D/O/S: None/ None/ None	CH			NATIVE	
						At 6': Sandier.		
7.5		6-8	PID: 0.0 ppm D/O/S: None/ None/ None					
						End of boring 8.0 feet		
10.0								
12.5								
15.0								
17.5								
20.0								

Date Boring Started: 11/24/15 12:30 pm
Date Boring Completed: 11/24/15 1:00 pm
Logged By: AMK2
Drilling Contractor: Stevens
Drill Rig: Track Rig

Remarks:
Background PID: 0.00 ppm

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected
Additional data may have been collected in the field which is not included on this log.
Weather: 27°F, calm, overcast, cloudy

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Barr Engineering Company
234 West Century Avenue
Bismarck, ND 58503
Telephone: 701-255-5460

LOG OF BORING B-6

SHEET 1 OF 1

Project: Mouse River
Project No.: 34511010
Location: Minot, ND
Coordinates: N 453,507.0 ft E 1,776,473.0 ft
Datum: NAD83 - StatePlane North Dakota North Feet

Surface Elevation: N/A
Drilling Method: Push
Sampling Method: Continuous
Completion Depth: 8.0 ft

Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	SSCS	Graphic Log	LITHOLOGIC DESCRIPTION	MAJOR UNIT	Elevation, feet
0.0		0-2	PID: 0.0 ppm D/O/S: None/ None/ None	CH		FAT CLAY WITH SAND AND GRAVEL (CH): light olive brown (5/4/2.5Y); medium plasticity; 20% gravel, 30% sand, 50% fines, rounded.	FILL	
2.5			PID: 0.0 ppm D/O/S: None/ None/ None	SP		WELL SORTED SAND (SP): coarse grained; black (2.5/1/2.5Y); moist; 0% gravel, 90% sand, 10% fines, rounded, some clay. At 3.5': Color change to olive brown (4/4/2.5Y).		
5.0			PID: 0.1 ppm D/O/S: None/ None/ None	CH		FAT CLAY (CH): very dark grayish brown (3/2/10YR); high plasticity; 0% gravel, 10% sand, 90% fines.		
7.5		6-8	PID: 0.1 ppm D/O/S: None/ None/ None					
						End of boring 8.0 feet		
10.0								
12.5								
15.0								
17.5								
20.0								

Date Boring Started: 11/24/15 1:00 pm
Date Boring Completed: 11/24/15 1:30 pm
Logged By: AMK2
Drilling Contractor: Stevens
Drill Rig: Track Rig

Remarks:
Background PID: 0.00 ppm

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected
Additional data may have been collected in the field which is not included on this log.
Weather: 27°F, calm, overcast, cloudy

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Appendix B

Photo Log

Appendix B Photo Log

4th Avenue Floodwall Minot, ND November 23-34, 2015

Photo #	Comments
1	B-1. 0-2' bgs. Gravel with sandy clay (GC, Fill).
2	B-4. 2-4' bgs. Gravel with clay (GC, Fill).
3	B-4. 6-8' bgs. Weathered concrete at 6'.
4	B-5. 6-8' bgs. Sandy fat clay (CH, Native).
5	B-6. 4-6' bgs. Well sorted sand (SP, Fill) to fat clay (CH, Fill).
6	B-2a. 10-12' bgs. Well sorted sand (SW-SC, Native). Groundwater at 11' bgs.
7	B-2a. 14-16' bgs. Coarser well sorted sand (SW-SC, Native).
8	B-3. 12-14' bgs. Sand with clay (SP-SC, Native). Trace white silt and sand.
9	B-3. 16-18' bgs. Sand with clay (SP-SC, Native). Heavily oxidized coarse ox.
10	B-1. 18-20' bgs. Fat clay (CH, Native).



Photo 1: B-1. 0-2' bgs. Gravel with sandy clay (GC, Fill).



Photo 2: B-4. 2-4' bgs. Gravel with clay (GC, Fill).



Photo 3: B-4. 6-8' bgs. Weathered concrete at 6'.



Photo 4: B-5. 6-8' bgs. Sandy fat clay (CH, Native).



Photo 5: B-6. 4-6' bgs. Well sorted sand (SP, Fill) to fat clay (CH, Fill).



Photo 6: B-2a. 10-12' bgs. Well sorted sand (SW-SC, Native). Groundwater at 11' bgs.



Photo 7: B-2a. 14-16' bgs. Coarser well sorted sand (SW-SC, Native).



Photo 8: B-3. 12-14' bgs. Sand with clay (SP-SC, Native). Trace white silt and oxidation mottling.



Photo 9: B-3. 16-18' bgs. Sand with clay (SP-SC, Native). Heavily oxidized coarse sand.



Photo 10: B-1. 18-20' bgs. Fat clay (CH, Native).

Appendix C

Laboratory Analytical Report



88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

December 10, 2015

Ms. Andrea Nord
Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Work Order Number: 1505280
RE: 34511010

Enclosed are the results of analyses for samples received by the laboratory on 11/25/15. If you have any questions concerning this report, please feel free to contact me.

Results are not blank corrected unless noted within the report. Additionally, all QC results meet requirements unless noted.

All samples will be retained by Legend Technical Services, Inc., unless consumed in the analysis, at ambient conditions for 30 days from the date of this report and then discarded unless other arrangements are made. All samples were received in acceptable condition unless otherwise noted.

ND Accreditation #R-065

Prepared by,
LEGEND TECHNICAL SERVICES, INC

A handwritten signature in black ink, appearing to read "Bach Pham", written over a horizontal line.

Bach Pham
Client Manager II
bpham@legend-group.com

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
---	---	--

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-1_10-12	1505280-01	Soil	11/23/15 17:15	11/25/15 09:30
B-1_16-18	1505280-02	Soil	11/23/15 17:15	11/25/15 09:30
B-2a_2-4	1505280-03	Soil	11/24/15 10:00	11/25/15 09:30
B-2a_4-6	1505280-04	Soil	11/24/15 10:00	11/25/15 09:30
B-3_6-8	1505280-05	Soil	11/24/15 11:00	11/25/15 09:30
B-3_0-2	1505280-06	Soil	11/24/15 11:00	11/25/15 09:30
B-4_2-4	1505280-07	Soil	11/24/15 12:00	11/25/15 09:30
B-4_8-10	1505280-08	Soil	11/24/15 12:00	11/25/15 09:30
B-5_0-2	1505280-09	Soil	11/24/15 12:45	11/25/15 09:30
B-5_6-8	1505280-10	Soil	11/24/15 12:45	11/25/15 09:30
B-6_0-2	1505280-11	Soil	11/24/15 13:30	11/25/15 09:30
B-6_6-8	1505280-12	Soil	11/24/15 13:30	11/25/15 09:30

Shipping Container Information

Default Cooler	Temperature (°C): 3.7	
Received on ice: Yes	Temperature blank was present	Received on ice pack: No
Received on melt water: No	Ambient: No	Acceptable (IH/ISO only): No
Custody seals: No		

Case Narrative:

Recovery for the 8270 surrogate terphenyl-d14 was below laboratory acceptance limits in sample B-5_0-2. The remaining sample surrogates passed acceptance criteria.

The MSD recovery for barium was outside the method control limits for the 6010C batch B5L0124. The LCS, LCS duplicate, and % RPD were within the control limits. The source sample was B-1_10-12.

The DRO chromatograms are attached for all samples.

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
---	---	--

8015D DRO
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-12 (1505280-01) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
Diesel Range Organics	<11	11	2.3	mg/kg dry	1	B5L0301	12/03/15	12/04/15	EPA 8015D	
Surrogate: Triacontane (C-30)	106			70-130 %		"	"	"	"	
B-1_16-18 (1505280-02) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
Diesel Range Organics	<10	10	2.2	mg/kg dry	1	B5L0301	12/03/15	12/03/15	EPA 8015D	
Surrogate: Triacontane (C-30)	113			70-130 %		"	"	"	"	
B-2a_2-4 (1505280-03) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
Diesel Range Organics	<9.6	9.6	2.0	mg/kg dry	1	B5L0301	12/03/15	12/03/15	EPA 8015D	
Surrogate: Triacontane (C-30)	104			70-130 %		"	"	"	"	
B-2a_4-6 (1505280-04) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
Diesel Range Organics	<9.6	9.6	2.0	mg/kg dry	1	B5L0301	12/03/15	12/03/15	EPA 8015D	
Surrogate: Triacontane (C-30)	109			70-130 %		"	"	"	"	
B-3_6-8 (1505280-05) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
Diesel Range Organics	<10	10	2.2	mg/kg dry	1	B5L0301	12/03/15	12/03/15	EPA 8015D	
Surrogate: Triacontane (C-30)	114			70-130 %		"	"	"	"	
B-3_0-2 (1505280-06) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
Diesel Range Organics	30	9.0	1.9	mg/kg dry	1	B5L0301	12/03/15	12/03/15	EPA 8015D	L1
Surrogate: Triacontane (C-30)	103			70-130 %		"	"	"	"	
B-4_2-4 (1505280-07) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
Diesel Range Organics	<8.5	8.5	1.8	mg/kg dry	1	B5L0301	12/03/15	12/04/15	EPA 8015D	
Surrogate: Triacontane (C-30)	102			70-130 %		"	"	"	"	
B-4_8-10 (1505280-08) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
Diesel Range Organics	<9.6	9.6	2.0	mg/kg dry	1	B5L0301	12/03/15	12/04/15	EPA 8015D	
Surrogate: Triacontane (C-30)	107			70-130 %		"	"	"	"	
B-5_0-2 (1505280-09) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
Diesel Range Organics	13	8.8	1.9	mg/kg dry	1	B5L0301	12/03/15	12/03/15	EPA 8015D	L1
Surrogate: Triacontane (C-30)	109			70-130 %		"	"	"	"	
B-5_6-8 (1505280-10) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
Diesel Range Organics	<8.8	8.8	1.9	mg/kg dry	1	B5L0301	12/03/15	12/04/15	EPA 8015D	
Surrogate: Triacontane (C-30)	107			70-130 %		"	"	"	"	
B-6_0-2 (1505280-11) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
Diesel Range Organics	<9.0	9.0	1.9	mg/kg dry	1	B5L0301	12/03/15	12/03/15	EPA 8015D	
Surrogate: Triacontane (C-30)	113			70-130 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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8015D DRO
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-6_6-8 (1505280-12) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
Diesel Range Organics	<10	10	2.2	mg/kg dry	1	B5L0301	12/03/15	12/04/15	EPA 8015D	
Surrogate: Triacontane (C-30)	108			70-130 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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8015D GRO
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-12 (1505280-01) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
Gasoline range organics	<6.8	6.8	0.73	mg/kg dry	1	B5L0123	12/01/15	12/01/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	97.1		80-150 %			"	"	"	"	
B-1_16-18 (1505280-02) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
Gasoline range organics	<6.5	6.5	0.70	mg/kg dry	1	B5L0123	12/01/15	12/01/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	98.2		80-150 %			"	"	"	"	
B-2a_2-4 (1505280-03) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
Gasoline range organics	<6.0	6.0	0.65	mg/kg dry	1	B5L0123	12/01/15	12/01/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	98.0		80-150 %			"	"	"	"	
B-2a_4-6 (1505280-04) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
Gasoline range organics	<6.0	6.0	0.65	mg/kg dry	1	B5L0123	12/01/15	12/02/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	97.5		80-150 %			"	"	"	"	
B-3_6-8 (1505280-05) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
Gasoline range organics	<6.5	6.5	0.70	mg/kg dry	1	B5L0123	12/01/15	12/02/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	97.1		80-150 %			"	"	"	"	
B-3_0-2 (1505280-06) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
Gasoline range organics	<5.3	5.3	0.57	mg/kg dry	1	B5L0123	12/01/15	12/02/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	96.8		80-150 %			"	"	"	"	
B-4_2-4 (1505280-07) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
Gasoline range organics	<5.3	5.3	0.57	mg/kg dry	1	B5L0123	12/01/15	12/02/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	133		80-150 %			"	"	"	"	
B-4_8-10 (1505280-08) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
Gasoline range organics	<6.0	6.0	0.65	mg/kg dry	1	B5L0123	12/01/15	12/02/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	100		80-150 %			"	"	"	"	
B-5_0-2 (1505280-09) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
Gasoline range organics	<5.2	5.2	0.56	mg/kg dry	1	B5L0123	12/01/15	12/02/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	101		80-150 %			"	"	"	"	
B-5_6-8 (1505280-10) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
Gasoline range organics	<5.5	5.5	0.59	mg/kg dry	1	B5L0123	12/01/15	12/02/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	100		80-150 %			"	"	"	"	
B-6_0-2 (1505280-11) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
Gasoline range organics	<5.6	5.6	0.61	mg/kg dry	1	B5L0123	12/01/15	12/02/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	100		80-150 %			"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

8015D GRO
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-6_6-8 (1505280-12) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
Gasoline range organics	<6.3	6.3	0.68	mg/kg dry	1	B5L0123	12/01/15	12/02/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	101			80-150 %		"	"	"	"	

Barr Engineering Co.	Project: 34511010	Work Order #: 1505280
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Date Reported: 12/10/15
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	

TOTAL METALS ANALYSIS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-12 (1505280-01) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
Arsenic	4.1	0.68	0.14	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Barium	150	1.4	0.089	mg/kg dry	1	"	"	"	"	M1
Cadmium	<0.34	0.34	0.012	mg/kg dry	1	"	"	"	"	
Chromium	15	0.68	0.049	mg/kg dry	1	"	"	"	"	
Lead	8.0	1.4	0.084	mg/kg dry	1	"	"	"	"	
Mercury	<0.68	0.68	0.31	mg/kg dry	1	"	"	"	"	
Selenium	<1.4	1.4	0.39	mg/kg dry	1	"	"	"	"	
Silver	<0.34	0.34	0.016	mg/kg dry	1	"	"	"	"	
B-1_16-18 (1505280-02) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
Arsenic	2.1	0.65	0.13	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Barium	190	1.3	0.086	mg/kg dry	1	"	"	"	"	
Cadmium	<0.32	0.32	0.011	mg/kg dry	1	"	"	"	"	
Chromium	19	0.65	0.047	mg/kg dry	1	"	"	"	"	
Lead	8.6	1.3	0.081	mg/kg dry	1	"	"	"	"	
Mercury	<0.65	0.65	0.30	mg/kg dry	1	"	"	"	"	
Selenium	<1.3	1.3	0.38	mg/kg dry	1	"	"	"	"	
Silver	<0.32	0.32	0.016	mg/kg dry	1	"	"	"	"	
B-2a_2-4 (1505280-03) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
Arsenic	6.2	0.60	0.12	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Barium	310	1.2	0.080	mg/kg dry	1	"	"	"	"	
Cadmium	<0.30	0.30	0.010	mg/kg dry	1	"	"	"	"	
Chromium	14	0.60	0.043	mg/kg dry	1	"	"	"	"	
Lead	12	1.2	0.075	mg/kg dry	1	"	"	"	"	
Mercury	<0.60	0.60	0.28	mg/kg dry	1	"	"	"	"	
Selenium	<1.2	1.2	0.35	mg/kg dry	1	"	"	"	"	
Silver	<0.30	0.30	0.014	mg/kg dry	1	"	"	"	"	
B-2a_4-6 (1505280-04) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
Arsenic	4.5	0.60	0.12	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Barium	210	1.2	0.080	mg/kg dry	1	"	"	"	"	
Cadmium	<0.30	0.30	0.010	mg/kg dry	1	"	"	"	"	
Chromium	16	0.60	0.043	mg/kg dry	1	"	"	"	"	
Lead	8.5	1.2	0.075	mg/kg dry	1	"	"	"	"	
Mercury	<0.60	0.60	0.28	mg/kg dry	1	"	"	"	"	
Selenium	<1.2	1.2	0.35	mg/kg dry	1	"	"	"	"	
Silver	<0.30	0.30	0.014	mg/kg dry	1	"	"	"	"	
B-3_6-8 (1505280-05) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
Arsenic	6.0	0.65	0.13	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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TOTAL METALS ANALYSIS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_6-8 (1505280-05) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
Barium	140	1.3	0.086	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Cadmium	1.9	0.32	0.011	mg/kg dry	1	"	"	"	"	
Chromium	20	0.65	0.047	mg/kg dry	1	"	"	"	"	
Lead	8.2	1.3	0.081	mg/kg dry	1	"	"	"	"	
Mercury	<0.65	0.65	0.30	mg/kg dry	1	"	"	"	"	
Selenium	<1.3	1.3	0.38	mg/kg dry	1	"	"	"	"	
Silver	<0.32	0.32	0.016	mg/kg dry	1	"	"	"	"	
B-3_0-2 (1505280-06) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
Arsenic	11	0.56	0.11	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Barium	230	1.1	0.074	mg/kg dry	1	"	"	"	"	
Cadmium	<0.28	0.28	0.0098	mg/kg dry	1	"	"	"	"	
Chromium	11	0.56	0.040	mg/kg dry	1	"	"	"	"	
Lead	31	1.1	0.070	mg/kg dry	1	"	"	"	"	
Mercury	<0.56	0.56	0.26	mg/kg dry	1	"	"	"	"	
Selenium	<1.1	1.1	0.33	mg/kg dry	1	"	"	"	"	
Silver	<0.28	0.28	0.013	mg/kg dry	1	"	"	"	"	
B-4_2-4 (1505280-07) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
Arsenic	8.9	0.53	0.11	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Barium	100	1.1	0.070	mg/kg dry	1	"	"	"	"	
Cadmium	<0.27	0.27	0.0093	mg/kg dry	1	"	"	"	"	
Chromium	12	0.53	0.038	mg/kg dry	1	"	"	"	"	
Lead	5.2	1.1	0.066	mg/kg dry	1	"	"	"	"	
Mercury	<0.53	0.53	0.24	mg/kg dry	1	"	"	"	"	
Selenium	<1.1	1.1	0.31	mg/kg dry	1	"	"	"	"	
Silver	<0.27	0.27	0.013	mg/kg dry	1	"	"	"	"	
B-4_8-10 (1505280-08) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
Arsenic	2.1	0.60	0.12	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Barium	72	1.2	0.080	mg/kg dry	1	"	"	"	"	
Cadmium	<0.30	0.30	0.010	mg/kg dry	1	"	"	"	"	
Chromium	4.4	0.60	0.043	mg/kg dry	1	"	"	"	"	
Lead	2.6	1.2	0.075	mg/kg dry	1	"	"	"	"	
Mercury	<0.60	0.60	0.28	mg/kg dry	1	"	"	"	"	
Selenium	<1.2	1.2	0.35	mg/kg dry	1	"	"	"	"	
Silver	<0.30	0.30	0.014	mg/kg dry	1	"	"	"	"	
B-5_0-2 (1505280-09) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
Arsenic	6.0	0.55	0.11	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Barium	160	1.1	0.073	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

TOTAL METALS ANALYSIS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-5_0-2 (1505280-09) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
Cadmium	<0.27	0.27	0.0096	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Chromium	12	0.55	0.040	mg/kg dry	1	"	"	"	"	
Lead	7.3	1.1	0.068	mg/kg dry	1	"	"	"	"	
Mercury	<0.55	0.55	0.25	mg/kg dry	1	"	"	"	"	
Selenium	<1.1	1.1	0.32	mg/kg dry	1	"	"	"	"	
Silver	<0.27	0.27	0.013	mg/kg dry	1	"	"	"	"	
B-5_6-8 (1505280-10) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
Arsenic	3.6	0.55	0.11	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Barium	110	1.1	0.073	mg/kg dry	1	"	"	"	"	
Cadmium	<0.27	0.27	0.0096	mg/kg dry	1	"	"	"	"	
Chromium	8.1	0.55	0.040	mg/kg dry	1	"	"	"	"	
Lead	4.1	1.1	0.068	mg/kg dry	1	"	"	"	"	
Mercury	<0.55	0.55	0.25	mg/kg dry	1	"	"	"	"	
Selenium	<1.1	1.1	0.32	mg/kg dry	1	"	"	"	"	
Silver	<0.27	0.27	0.013	mg/kg dry	1	"	"	"	"	
B-6_0-2 (1505280-11) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
Arsenic	5.3	0.56	0.11	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Barium	150	1.1	0.074	mg/kg dry	1	"	"	"	"	
Cadmium	<0.28	0.28	0.0098	mg/kg dry	1	"	"	"	"	
Chromium	11	0.56	0.040	mg/kg dry	1	"	"	"	"	
Lead	12	1.1	0.070	mg/kg dry	1	"	"	"	"	
Mercury	<0.56	0.56	0.26	mg/kg dry	1	"	"	"	"	
Selenium	<1.1	1.1	0.33	mg/kg dry	1	"	"	"	"	
Silver	<0.28	0.28	0.013	mg/kg dry	1	"	"	"	"	
B-6_6-8 (1505280-12) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
Arsenic	4.6	0.63	0.13	mg/kg dry	1	B5L0124	12/02/15	12/09/15	EPA 6010C	
Barium	160	1.3	0.084	mg/kg dry	1	"	"	"	"	
Cadmium	<0.32	0.32	0.011	mg/kg dry	1	"	"	"	"	
Chromium	17	0.63	0.046	mg/kg dry	1	"	"	"	"	
Lead	9.0	1.3	0.078	mg/kg dry	1	"	"	"	"	
Mercury	<0.63	0.63	0.29	mg/kg dry	1	"	"	"	"	
Selenium	<1.3	1.3	0.37	mg/kg dry	1	"	"	"	"	
Silver	<0.32	0.32	0.015	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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PERCENT SOLIDS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-12 (1505280-01) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
% Solids	74			%	1	B5L0306	12/03/15	12/03/15	% calculation	
B-1_16-18 (1505280-02) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
% Solids	77			%	1	B5L0306	12/03/15	12/03/15	% calculation	
B-2a_2-4 (1505280-03) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
% Solids	83			%	1	B5L0306	12/03/15	12/03/15	% calculation	
B-2a_4-6 (1505280-04) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
% Solids	83			%	1	B5L0306	12/03/15	12/03/15	% calculation	
B-3_6-8 (1505280-05) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
% Solids	77			%	1	B5L0306	12/03/15	12/03/15	% calculation	
B-3_0-2 (1505280-06) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
% Solids	89			%	1	B5L0306	12/03/15	12/03/15	% calculation	
B-4_2-4 (1505280-07) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
% Solids	94			%	1	B5L0306	12/03/15	12/03/15	% calculation	
B-4_8-10 (1505280-08) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
% Solids	83			%	1	B5L0306	12/03/15	12/03/15	% calculation	
B-5_0-2 (1505280-09) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
% Solids	91			%	1	B5L0306	12/03/15	12/03/15	% calculation	
B-5_6-8 (1505280-10) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
% Solids	91			%	1	B5L0306	12/03/15	12/03/15	% calculation	
B-6_0-2 (1505280-11) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
% Solids	89			%	1	B5L0306	12/03/15	12/03/15	% calculation	
B-6_6-8 (1505280-12) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
% Solids	79			%	1	B5L0306	12/03/15	12/03/15	% calculation	

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-12 (1505280-01) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.45	0.45	0.10	mg/kg dry	1	B5K3002	11/30/15	11/30/15	EPA 8270D	
1,2-Dichlorobenzene	<0.45	0.45	0.091	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.45	0.45	0.078	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.45	0.45	0.093	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.45	0.45	0.092	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.91	0.91	0.26	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.91	0.91	0.096	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.91	0.91	0.22	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.91	0.91	0.20	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.91	0.91	0.18	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.91	0.91	0.096	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.45	0.45	0.092	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.91	0.91	0.18	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.45	0.45	0.10	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.45	0.45	0.092	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.91	0.91	0.20	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.45	0.45	0.11	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.91	0.91	0.11	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.45	0.45	0.093	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.91	0.91	0.24	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.91	0.91	0.11	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<2.2	2.2	0.61	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.45	0.45	0.097	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.91	0.91	0.15	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.45	0.45	0.092	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.91	0.91	0.19	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.91	0.91	0.091	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.45	0.45	0.092	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.45	0.45	0.11	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.91	0.91	0.23	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.45	0.45	0.085	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.45	0.45	0.096	mg/kg dry	1	"	"	"	"	
Aniline	<0.91	0.91	0.089	mg/kg dry	1	"	"	"	"	
Anthracene	<0.45	0.45	0.093	mg/kg dry	1	"	"	"	"	
Benzidine	<3.4	3.4	0.59	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.45	0.45	0.088	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.45	0.45	0.095	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.45	0.45	0.080	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.45	0.45	0.096	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-12 (1505280-01) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.45	0.45	0.095	mg/kg dry	1	B5K3002	11/30/15	11/30/15	EPA 8270D	
Benzoic acid	<0.45	0.45	0.086	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.91	0.91	0.20	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.45	0.45	0.10	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.45	0.45	0.093	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.45	0.45	0.11	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.45	0.45	0.11	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.45	0.45	0.11	mg/kg dry	1	"	"	"	"	
Carbazole	<0.45	0.45	0.10	mg/kg dry	1	"	"	"	"	
Chrysene	<0.45	0.45	0.086	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.45	0.45	0.11	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.45	0.45	0.092	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.45	0.45	0.085	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.45	0.45	0.093	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.45	0.45	0.11	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.45	0.45	0.14	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.45	0.45	0.092	mg/kg dry	1	"	"	"	"	
Fluorene	<0.45	0.45	0.088	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.45	0.45	0.084	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.45	0.45	0.10	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.45	0.45	0.093	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.45	0.45	0.11	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.45	0.45	0.097	mg/kg dry	1	"	"	"	"	
Isophorone	<0.45	0.45	0.10	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.45	0.45	0.096	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.45	0.45	0.11	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.45	0.45	0.095	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.45	0.45	0.099	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.45	0.45	0.091	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.91	0.91	0.26	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.45	0.45	0.089	mg/kg dry	1	"	"	"	"	
Phenol	<0.91	0.91	0.19	mg/kg dry	1	"	"	"	"	
Pyrene	<0.45	0.45	0.080	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	81.8			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	67.9			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	71.0			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	56.5			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	75.3			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	58.9			51-99.6 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_16-18 (1505280-02) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.43	0.43	0.097	mg/kg dry	1	B5K3002	11/30/15	11/30/15	EPA 8270D	
1,2-Dichlorobenzene	<0.43	0.43	0.087	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.43	0.43	0.075	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.87	0.87	0.25	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.87	0.87	0.092	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.87	0.87	0.21	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.87	0.87	0.19	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.87	0.87	0.17	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.87	0.87	0.092	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.87	0.87	0.17	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.87	0.87	0.19	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.87	0.87	0.11	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.87	0.87	0.23	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.87	0.87	0.11	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<2.1	2.1	0.58	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.43	0.43	0.094	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.87	0.87	0.14	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.87	0.87	0.18	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.87	0.87	0.087	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.43	0.43	0.11	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.87	0.87	0.22	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.43	0.43	0.082	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.43	0.43	0.092	mg/kg dry	1	"	"	"	"	
Aniline	<0.87	0.87	0.086	mg/kg dry	1	"	"	"	"	
Anthracene	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
Benzidine	<3.2	3.2	0.57	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.43	0.43	0.084	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.43	0.43	0.091	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.43	0.43	0.077	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.43	0.43	0.092	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_16-18 (1505280-02) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.43	0.43	0.091	mg/kg dry	1	B5K3002	11/30/15	11/30/15	EPA 8270D	
Benzoic acid	<0.43	0.43	0.083	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.87	0.87	0.19	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.43	0.43	0.11	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.43	0.43	0.11	mg/kg dry	1	"	"	"	"	
Carbazole	<0.43	0.43	0.099	mg/kg dry	1	"	"	"	"	
Chrysene	<0.43	0.43	0.083	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.43	0.43	0.11	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.43	0.43	0.082	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.43	0.43	0.13	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
Fluorene	<0.43	0.43	0.084	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.43	0.43	0.081	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.43	0.43	0.11	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.43	0.43	0.094	mg/kg dry	1	"	"	"	"	
Isophorone	<0.43	0.43	0.099	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.43	0.43	0.092	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.43	0.43	0.091	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.43	0.43	0.095	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.43	0.43	0.087	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.87	0.87	0.25	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.43	0.43	0.086	mg/kg dry	1	"	"	"	"	
Phenol	<0.87	0.87	0.18	mg/kg dry	1	"	"	"	"	
Pyrene	<0.43	0.43	0.077	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	81.9			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	64.9			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	70.7			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	65.9			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	74.8			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	67.2			51-99.6 %		"	"	"	"	

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a_2-4 (1505280-03) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.40	0.40	0.090	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
1,2-Dichlorobenzene	<0.40	0.40	0.081	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.40	0.40	0.070	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.81	0.81	0.23	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.81	0.81	0.086	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.81	0.81	0.19	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.81	0.81	0.18	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.81	0.81	0.16	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.81	0.81	0.086	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.81	0.81	0.16	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.40	0.40	0.093	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.81	0.81	0.18	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.40	0.40	0.096	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.81	0.81	0.099	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.81	0.81	0.22	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.81	0.81	0.099	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<1.9	1.9	0.54	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.40	0.40	0.087	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.81	0.81	0.13	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.81	0.81	0.17	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.81	0.81	0.081	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.40	0.40	0.10	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.81	0.81	0.20	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.40	0.40	0.076	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.40	0.40	0.086	mg/kg dry	1	"	"	"	"	
Aniline	<0.81	0.81	0.080	mg/kg dry	1	"	"	"	"	
Anthracene	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Benzidine	<3.0	3.0	0.53	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.40	0.40	0.078	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.40	0.40	0.084	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.40	0.40	0.071	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.40	0.40	0.086	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a_2-4 (1505280-03) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.40	0.40	0.084	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
Benzoic acid	<0.40	0.40	0.077	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.81	0.81	0.18	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.40	0.40	0.093	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.40	0.40	0.094	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.40	0.40	0.098	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.40	0.40	0.10	mg/kg dry	1	"	"	"	"	
Carbazole	<0.40	0.40	0.092	mg/kg dry	1	"	"	"	"	
Chrysene	<0.40	0.40	0.077	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.40	0.40	0.099	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.40	0.40	0.076	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.40	0.40	0.095	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.40	0.40	0.12	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
Fluorene	<0.40	0.40	0.078	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.40	0.40	0.075	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.40	0.40	0.093	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.40	0.40	0.099	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.40	0.40	0.087	mg/kg dry	1	"	"	"	"	
Isophorone	<0.40	0.40	0.092	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.40	0.40	0.086	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.40	0.40	0.096	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.40	0.40	0.084	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.40	0.40	0.088	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.40	0.40	0.081	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.81	0.81	0.23	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.40	0.40	0.080	mg/kg dry	1	"	"	"	"	
Phenol	<0.81	0.81	0.17	mg/kg dry	1	"	"	"	"	
Pyrene	<0.40	0.40	0.071	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	83.0			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	70.1			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	52.9			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	66.3			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	67.5			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	53.9			51-99.6 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a_4-6 (1505280-04) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.40	0.40	0.090	mg/kg dry	1	B5K3002	11/30/15	11/30/15	EPA 8270D	
1,2-Dichlorobenzene	<0.40	0.40	0.081	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.40	0.40	0.070	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.81	0.81	0.23	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.81	0.81	0.086	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.81	0.81	0.19	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.81	0.81	0.18	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.81	0.81	0.16	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.81	0.81	0.086	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.81	0.81	0.16	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.40	0.40	0.093	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.81	0.81	0.18	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.40	0.40	0.096	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.81	0.81	0.099	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.81	0.81	0.22	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.81	0.81	0.099	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<1.9	1.9	0.54	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.40	0.40	0.087	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.81	0.81	0.13	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.81	0.81	0.17	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.81	0.81	0.081	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.40	0.40	0.10	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.81	0.81	0.20	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.40	0.40	0.076	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.40	0.40	0.086	mg/kg dry	1	"	"	"	"	
Aniline	<0.81	0.81	0.080	mg/kg dry	1	"	"	"	"	
Anthracene	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Benzidine	<3.0	3.0	0.53	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.40	0.40	0.078	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.40	0.40	0.084	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.40	0.40	0.071	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.40	0.40	0.086	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a_4-6 (1505280-04) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.40	0.40	0.084	mg/kg dry	1	B5K3002	11/30/15	11/30/15	EPA 8270D	
Benzoic acid	<0.40	0.40	0.077	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.81	0.81	0.18	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.40	0.40	0.093	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.40	0.40	0.094	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.40	0.40	0.098	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.40	0.40	0.10	mg/kg dry	1	"	"	"	"	
Carbazole	<0.40	0.40	0.092	mg/kg dry	1	"	"	"	"	
Chrysene	<0.40	0.40	0.077	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.40	0.40	0.099	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.40	0.40	0.076	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.40	0.40	0.095	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.40	0.40	0.12	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
Fluorene	<0.40	0.40	0.078	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.40	0.40	0.075	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.40	0.40	0.093	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.40	0.40	0.099	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.40	0.40	0.087	mg/kg dry	1	"	"	"	"	
Isophorone	<0.40	0.40	0.092	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.40	0.40	0.086	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.40	0.40	0.096	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.40	0.40	0.084	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.40	0.40	0.088	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.40	0.40	0.081	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.81	0.81	0.23	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.40	0.40	0.080	mg/kg dry	1	"	"	"	"	
Phenol	<0.81	0.81	0.17	mg/kg dry	1	"	"	"	"	
Pyrene	<0.40	0.40	0.071	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	80.9			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	62.7			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	55.1			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	63.9			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	68.8			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	51.8			51-99.6 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_6-8 (1505280-05) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.43	0.43	0.097	mg/kg dry	1	B5K3002	11/30/15	11/30/15	EPA 8270D	
1,2-Dichlorobenzene	<0.43	0.43	0.087	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.43	0.43	0.075	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.87	0.87	0.25	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.87	0.87	0.092	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.87	0.87	0.21	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.87	0.87	0.19	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.87	0.87	0.17	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.87	0.87	0.092	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.87	0.87	0.17	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.87	0.87	0.19	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.87	0.87	0.11	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.87	0.87	0.23	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.87	0.87	0.11	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<2.1	2.1	0.58	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.43	0.43	0.094	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.87	0.87	0.14	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.87	0.87	0.18	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.87	0.87	0.087	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.43	0.43	0.11	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.87	0.87	0.22	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.43	0.43	0.082	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.43	0.43	0.092	mg/kg dry	1	"	"	"	"	
Aniline	<0.87	0.87	0.086	mg/kg dry	1	"	"	"	"	
Anthracene	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
Benzidine	<3.2	3.2	0.57	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.43	0.43	0.084	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.43	0.43	0.091	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.43	0.43	0.077	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.43	0.43	0.092	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_6-8 (1505280-05) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.43	0.43	0.091	mg/kg dry	1	B5K3002	11/30/15	11/30/15	EPA 8270D	
Benzoic acid	<0.43	0.43	0.083	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.87	0.87	0.19	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.43	0.43	0.11	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.43	0.43	0.11	mg/kg dry	1	"	"	"	"	
Carbazole	<0.43	0.43	0.099	mg/kg dry	1	"	"	"	"	
Chrysene	<0.43	0.43	0.083	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.43	0.43	0.11	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.43	0.43	0.082	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.43	0.43	0.13	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.43	0.43	0.088	mg/kg dry	1	"	"	"	"	
Fluorene	<0.43	0.43	0.084	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.43	0.43	0.081	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.43	0.43	0.090	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.43	0.43	0.11	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.43	0.43	0.094	mg/kg dry	1	"	"	"	"	
Isophorone	<0.43	0.43	0.099	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.43	0.43	0.092	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.43	0.43	0.10	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.43	0.43	0.091	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.43	0.43	0.095	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.43	0.43	0.087	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.87	0.87	0.25	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.43	0.43	0.086	mg/kg dry	1	"	"	"	"	
Phenol	<0.87	0.87	0.18	mg/kg dry	1	"	"	"	"	
Pyrene	<0.43	0.43	0.077	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	83.9			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	63.3			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	63.3			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	65.0			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	73.0			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	54.6			51-99.6 %		"	"	"	"	

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_0-2 (1505280-06) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.37	0.37	0.084	mg/kg dry	1	B5K3002	11/30/15	11/30/15	EPA 8270D	
1,2-Dichlorobenzene	<0.37	0.37	0.075	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.37	0.37	0.065	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.75	0.75	0.21	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.75	0.75	0.080	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.75	0.75	0.18	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.75	0.75	0.17	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.75	0.75	0.15	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.75	0.75	0.080	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.75	0.75	0.15	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.37	0.37	0.087	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.75	0.75	0.17	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.37	0.37	0.090	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.75	0.75	0.092	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.75	0.75	0.20	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.75	0.75	0.092	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<1.8	1.8	0.51	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.37	0.37	0.081	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.75	0.75	0.12	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.75	0.75	0.16	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.75	0.75	0.075	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.37	0.37	0.093	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.75	0.75	0.19	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.37	0.37	0.071	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.37	0.37	0.080	mg/kg dry	1	"	"	"	"	
Aniline	<0.75	0.75	0.074	mg/kg dry	1	"	"	"	"	
Anthracene	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
Benzidine	<2.8	2.8	0.49	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.37	0.37	0.073	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.37	0.37	0.079	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.37	0.37	0.066	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.37	0.37	0.080	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_0-2 (1505280-06) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.37	0.37	0.079	mg/kg dry	1	B5K3002	11/30/15	11/30/15	EPA 8270D	
Benzoic acid	<0.37	0.37	0.072	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.75	0.75	0.17	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.37	0.37	0.087	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.37	0.37	0.088	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.37	0.37	0.091	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.37	0.37	0.093	mg/kg dry	1	"	"	"	"	
Carbazole	<0.37	0.37	0.085	mg/kg dry	1	"	"	"	"	
Chrysene	<0.37	0.37	0.072	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.37	0.37	0.092	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.37	0.37	0.071	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.37	0.37	0.089	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.37	0.37	0.11	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
Fluorene	<0.37	0.37	0.073	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.37	0.37	0.070	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.37	0.37	0.087	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.37	0.37	0.092	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.37	0.37	0.081	mg/kg dry	1	"	"	"	"	
Isophorone	<0.37	0.37	0.085	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.37	0.37	0.080	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.37	0.37	0.090	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.37	0.37	0.079	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.37	0.37	0.082	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.37	0.37	0.075	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.75	0.75	0.21	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.37	0.37	0.074	mg/kg dry	1	"	"	"	"	
Phenol	<0.75	0.75	0.16	mg/kg dry	1	"	"	"	"	
Pyrene	<0.37	0.37	0.066	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	83.4			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	68.2			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	57.0			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	68.2			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	70.4			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	52.0			51-99.6 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4_2-4 (1505280-07) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.35	0.35	0.080	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
1,2-Dichlorobenzene	<0.35	0.35	0.071	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.35	0.35	0.062	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.35	0.35	0.073	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.35	0.35	0.072	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.71	0.71	0.20	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.71	0.71	0.076	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.71	0.71	0.17	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.71	0.71	0.16	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.71	0.71	0.14	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.71	0.71	0.076	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.35	0.35	0.072	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.71	0.71	0.14	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.35	0.35	0.082	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.35	0.35	0.072	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.71	0.71	0.16	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.35	0.35	0.085	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.71	0.71	0.087	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.35	0.35	0.073	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.71	0.71	0.19	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.71	0.71	0.087	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<1.7	1.7	0.48	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.35	0.35	0.077	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.71	0.71	0.12	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.35	0.35	0.072	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.71	0.71	0.15	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.71	0.71	0.071	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.35	0.35	0.072	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.35	0.35	0.088	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.71	0.71	0.18	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.35	0.35	0.067	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.35	0.35	0.076	mg/kg dry	1	"	"	"	"	
Aniline	<0.71	0.71	0.070	mg/kg dry	1	"	"	"	"	
Anthracene	<0.35	0.35	0.073	mg/kg dry	1	"	"	"	"	
Benzidine	<2.7	2.7	0.47	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.35	0.35	0.069	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.35	0.35	0.074	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.35	0.35	0.063	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.35	0.35	0.076	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4_2-4 (1505280-07) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.35	0.35	0.074	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
Benzoic acid	<0.35	0.35	0.068	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.71	0.71	0.16	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.35	0.35	0.082	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.35	0.35	0.073	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.35	0.35	0.083	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.35	0.35	0.086	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.35	0.35	0.088	mg/kg dry	1	"	"	"	"	
Carbazole	<0.35	0.35	0.081	mg/kg dry	1	"	"	"	"	
Chrysene	<0.35	0.35	0.068	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.35	0.35	0.087	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.35	0.35	0.072	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.35	0.35	0.067	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.35	0.35	0.073	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.35	0.35	0.084	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.35	0.35	0.11	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.35	0.35	0.072	mg/kg dry	1	"	"	"	"	
Fluorene	<0.35	0.35	0.069	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.35	0.35	0.066	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.35	0.35	0.082	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.35	0.35	0.073	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.35	0.35	0.087	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.35	0.35	0.077	mg/kg dry	1	"	"	"	"	
Isophorone	<0.35	0.35	0.081	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.35	0.35	0.076	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.35	0.35	0.085	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.35	0.35	0.074	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.35	0.35	0.078	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.35	0.35	0.071	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.71	0.71	0.20	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.35	0.35	0.070	mg/kg dry	1	"	"	"	"	
Phenol	<0.71	0.71	0.15	mg/kg dry	1	"	"	"	"	
Pyrene	<0.35	0.35	0.063	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	86.0			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	74.9			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	56.7			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	71.8			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	73.2			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	53.6			51-99.6 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4_8-10 (1505280-08) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.40	0.40	0.090	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
1,2-Dichlorobenzene	<0.40	0.40	0.081	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.40	0.40	0.070	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.81	0.81	0.23	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.81	0.81	0.086	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.81	0.81	0.19	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.81	0.81	0.18	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.81	0.81	0.16	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.81	0.81	0.086	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.81	0.81	0.16	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.40	0.40	0.093	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.81	0.81	0.18	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.40	0.40	0.096	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.81	0.81	0.099	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.81	0.81	0.22	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.81	0.81	0.099	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<1.9	1.9	0.54	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.40	0.40	0.087	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.81	0.81	0.13	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.81	0.81	0.17	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.81	0.81	0.081	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.40	0.40	0.10	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.81	0.81	0.20	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.40	0.40	0.076	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.40	0.40	0.086	mg/kg dry	1	"	"	"	"	
Aniline	<0.81	0.81	0.080	mg/kg dry	1	"	"	"	"	
Anthracene	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Benzidine	<3.0	3.0	0.53	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.40	0.40	0.078	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.40	0.40	0.084	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.40	0.40	0.071	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.40	0.40	0.086	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4_8-10 (1505280-08) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.40	0.40	0.084	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
Benzoic acid	<0.40	0.40	0.077	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.81	0.81	0.18	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.40	0.40	0.093	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.40	0.40	0.094	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.40	0.40	0.098	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.40	0.40	0.10	mg/kg dry	1	"	"	"	"	
Carbazole	<0.40	0.40	0.092	mg/kg dry	1	"	"	"	"	
Chrysene	<0.40	0.40	0.077	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.40	0.40	0.099	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.40	0.40	0.076	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.40	0.40	0.095	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.40	0.40	0.12	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.40	0.40	0.082	mg/kg dry	1	"	"	"	"	
Fluorene	<0.40	0.40	0.078	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.40	0.40	0.075	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.40	0.40	0.093	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.40	0.40	0.083	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.40	0.40	0.099	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.40	0.40	0.087	mg/kg dry	1	"	"	"	"	
Isophorone	<0.40	0.40	0.092	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.40	0.40	0.086	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.40	0.40	0.096	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.40	0.40	0.084	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.40	0.40	0.088	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.40	0.40	0.081	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.81	0.81	0.23	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.40	0.40	0.080	mg/kg dry	1	"	"	"	"	
Phenol	<0.81	0.81	0.17	mg/kg dry	1	"	"	"	"	
Pyrene	<0.40	0.40	0.071	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	84.1			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	62.8			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	57.3			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	63.8			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	67.1			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	54.0			51-99.6 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-5_0-2 (1505280-09) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.36	0.36	0.082	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
1,2-Dichlorobenzene	<0.36	0.36	0.074	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.36	0.36	0.064	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.74	0.74	0.21	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.74	0.74	0.078	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.74	0.74	0.18	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.74	0.74	0.16	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.74	0.74	0.14	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.74	0.74	0.078	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.74	0.74	0.14	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.36	0.36	0.085	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.74	0.74	0.16	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.36	0.36	0.088	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.74	0.74	0.090	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.74	0.74	0.20	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.74	0.74	0.090	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<1.8	1.8	0.49	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.36	0.36	0.079	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.74	0.74	0.12	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.74	0.74	0.15	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.74	0.74	0.074	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.36	0.36	0.091	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.74	0.74	0.19	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.36	0.36	0.069	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.36	0.36	0.078	mg/kg dry	1	"	"	"	"	
Aniline	<0.74	0.74	0.073	mg/kg dry	1	"	"	"	"	
Anthracene	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
Benzidine	<2.7	2.7	0.48	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.36	0.36	0.071	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.36	0.36	0.077	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.36	0.36	0.065	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.36	0.36	0.078	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-5_0-2 (1505280-09) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.36	0.36	0.077	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
Benzoic acid	<0.36	0.36	0.070	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.74	0.74	0.16	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.36	0.36	0.085	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.36	0.36	0.086	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.36	0.36	0.089	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.36	0.36	0.091	mg/kg dry	1	"	"	"	"	
Carbazole	<0.36	0.36	0.084	mg/kg dry	1	"	"	"	"	
Chrysene	<0.36	0.36	0.070	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.36	0.36	0.090	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.36	0.36	0.069	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.36	0.36	0.087	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.36	0.36	0.11	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
Fluorene	<0.36	0.36	0.071	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.36	0.36	0.068	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.36	0.36	0.085	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.36	0.36	0.090	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.36	0.36	0.079	mg/kg dry	1	"	"	"	"	
Isophorone	<0.36	0.36	0.084	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.36	0.36	0.078	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.36	0.36	0.088	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.36	0.36	0.077	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.36	0.36	0.080	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.36	0.36	0.074	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.74	0.74	0.21	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.36	0.36	0.073	mg/kg dry	1	"	"	"	"	
Phenol	<0.74	0.74	0.15	mg/kg dry	1	"	"	"	"	
Pyrene	<0.36	0.36	0.065	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	84.8			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	67.9			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	57.6			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	65.6			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	68.8			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	49.0			51-99.6 %		"	"	"	"	S-GC

Barr Engineering Co.	Project: 34511010	Work Order #: 1505280
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Date Reported: 12/10/15
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-5_6-8 (1505280-10) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.36	0.36	0.082	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
1,2-Dichlorobenzene	<0.36	0.36	0.074	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.36	0.36	0.064	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.74	0.74	0.21	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.74	0.74	0.078	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.74	0.74	0.18	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.74	0.74	0.16	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.74	0.74	0.14	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.74	0.74	0.078	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.74	0.74	0.14	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.36	0.36	0.085	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.74	0.74	0.16	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.36	0.36	0.088	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.74	0.74	0.090	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.74	0.74	0.20	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.74	0.74	0.090	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<1.8	1.8	0.49	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.36	0.36	0.079	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.74	0.74	0.12	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.74	0.74	0.15	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.74	0.74	0.074	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.36	0.36	0.091	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.74	0.74	0.19	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.36	0.36	0.069	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.36	0.36	0.078	mg/kg dry	1	"	"	"	"	
Aniline	<0.74	0.74	0.073	mg/kg dry	1	"	"	"	"	
Anthracene	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
Benzidine	<2.7	2.7	0.48	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.36	0.36	0.071	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.36	0.36	0.077	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.36	0.36	0.065	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.36	0.36	0.078	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-5_6-8 (1505280-10) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.36	0.36	0.077	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
Benzoic acid	<0.36	0.36	0.070	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.74	0.74	0.16	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.36	0.36	0.085	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.36	0.36	0.086	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.36	0.36	0.089	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.36	0.36	0.091	mg/kg dry	1	"	"	"	"	
Carbazole	<0.36	0.36	0.084	mg/kg dry	1	"	"	"	"	
Chrysene	<0.36	0.36	0.070	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.36	0.36	0.090	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.36	0.36	0.069	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.36	0.36	0.087	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.36	0.36	0.11	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.36	0.36	0.075	mg/kg dry	1	"	"	"	"	
Fluorene	<0.36	0.36	0.071	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.36	0.36	0.068	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.36	0.36	0.085	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.36	0.36	0.076	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.36	0.36	0.090	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.36	0.36	0.079	mg/kg dry	1	"	"	"	"	
Isophorone	<0.36	0.36	0.084	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.36	0.36	0.078	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.36	0.36	0.088	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.36	0.36	0.077	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.36	0.36	0.080	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.36	0.36	0.074	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.74	0.74	0.21	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.36	0.36	0.073	mg/kg dry	1	"	"	"	"	
Phenol	<0.74	0.74	0.15	mg/kg dry	1	"	"	"	"	
Pyrene	<0.36	0.36	0.065	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	89.4			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	69.6			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	58.0			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	67.2			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	71.7			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	53.8			51-99.6 %		"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-6_0-2 (1505280-11) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.37	0.37	0.084	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
1,2-Dichlorobenzene	<0.37	0.37	0.075	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.37	0.37	0.065	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.75	0.75	0.21	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.75	0.75	0.080	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.75	0.75	0.18	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.75	0.75	0.17	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.75	0.75	0.15	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.75	0.75	0.080	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.75	0.75	0.15	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.37	0.37	0.087	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.75	0.75	0.17	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.37	0.37	0.090	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.75	0.75	0.092	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.75	0.75	0.20	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.75	0.75	0.092	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<1.8	1.8	0.51	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.37	0.37	0.081	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.75	0.75	0.12	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.75	0.75	0.16	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.75	0.75	0.075	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.37	0.37	0.093	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.75	0.75	0.19	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.37	0.37	0.071	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.37	0.37	0.080	mg/kg dry	1	"	"	"	"	
Aniline	<0.75	0.75	0.074	mg/kg dry	1	"	"	"	"	
Anthracene	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
Benzidine	<2.8	2.8	0.49	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.37	0.37	0.073	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.37	0.37	0.079	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.37	0.37	0.066	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.37	0.37	0.080	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-6_0-2 (1505280-11) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.37	0.37	0.079	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
Benzoic acid	<0.37	0.37	0.072	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.75	0.75	0.17	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.37	0.37	0.087	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.37	0.37	0.088	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.37	0.37	0.091	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.37	0.37	0.093	mg/kg dry	1	"	"	"	"	
Carbazole	<0.37	0.37	0.085	mg/kg dry	1	"	"	"	"	
Chrysene	<0.37	0.37	0.072	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.37	0.37	0.092	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.37	0.37	0.071	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.37	0.37	0.089	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.37	0.37	0.11	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.37	0.37	0.076	mg/kg dry	1	"	"	"	"	
Fluorene	<0.37	0.37	0.073	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.37	0.37	0.070	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.37	0.37	0.087	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.37	0.37	0.078	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.37	0.37	0.092	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.37	0.37	0.081	mg/kg dry	1	"	"	"	"	
Isophorone	<0.37	0.37	0.085	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.37	0.37	0.080	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.37	0.37	0.090	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.37	0.37	0.079	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.37	0.37	0.082	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.37	0.37	0.075	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.75	0.75	0.21	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.37	0.37	0.074	mg/kg dry	1	"	"	"	"	
Phenol	<0.75	0.75	0.16	mg/kg dry	1	"	"	"	"	
Pyrene	<0.37	0.37	0.066	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	89.5			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	70.2			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	60.5			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	67.4			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	72.7			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	55.1			51-99.6 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-6_6-8 (1505280-12) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<0.42	0.42	0.095	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
1,2-Dichlorobenzene	<0.42	0.42	0.085	mg/kg dry	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<0.42	0.42	0.073	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.42	0.42	0.087	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.42	0.42	0.086	mg/kg dry	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<0.85	0.85	0.24	mg/kg dry	1	"	"	"	"	
2,4,5-Trichlorophenol	<0.85	0.85	0.090	mg/kg dry	1	"	"	"	"	
2,4,6-Trichlorophenol	<0.85	0.85	0.20	mg/kg dry	1	"	"	"	"	
2,4-Dichlorophenol	<0.85	0.85	0.19	mg/kg dry	1	"	"	"	"	
2,4-Dimethylphenol	<0.85	0.85	0.16	mg/kg dry	1	"	"	"	"	
2,4-Dinitrophenol	<0.85	0.85	0.090	mg/kg dry	1	"	"	"	"	
2,4-Dinitrotoluene	<0.42	0.42	0.086	mg/kg dry	1	"	"	"	"	
2,6-Dichlorophenol	<0.85	0.85	0.16	mg/kg dry	1	"	"	"	"	
2,6-Dinitrotoluene	<0.42	0.42	0.097	mg/kg dry	1	"	"	"	"	
2-Chloronaphthalene	<0.42	0.42	0.086	mg/kg dry	1	"	"	"	"	
2-Chlorophenol	<0.85	0.85	0.19	mg/kg dry	1	"	"	"	"	
2-Methylnaphthalene	<0.42	0.42	0.10	mg/kg dry	1	"	"	"	"	
2-Methylphenol	<0.85	0.85	0.10	mg/kg dry	1	"	"	"	"	
2-Nitroaniline	<0.42	0.42	0.087	mg/kg dry	1	"	"	"	"	
2-Nitrophenol	<0.85	0.85	0.23	mg/kg dry	1	"	"	"	"	
3&4-Methylphenol	<0.85	0.85	0.10	mg/kg dry	1	"	"	"	"	
3,3'-Dichlorobenzidine	<2.0	2.0	0.57	mg/kg dry	1	"	"	"	"	
3-Nitroaniline	<0.42	0.42	0.091	mg/kg dry	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<0.85	0.85	0.14	mg/kg dry	1	"	"	"	"	
4-Bromophenyl phenyl ether	<0.42	0.42	0.086	mg/kg dry	1	"	"	"	"	
4-Chloro-3-methylphenol	<0.85	0.85	0.18	mg/kg dry	1	"	"	"	"	
4-Chloroaniline	<0.85	0.85	0.085	mg/kg dry	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<0.42	0.42	0.086	mg/kg dry	1	"	"	"	"	
4-Nitroaniline	<0.42	0.42	0.11	mg/kg dry	1	"	"	"	"	
4-Nitrophenol	<0.85	0.85	0.22	mg/kg dry	1	"	"	"	"	
Acenaphthene	<0.42	0.42	0.080	mg/kg dry	1	"	"	"	"	
Acenaphthylene	<0.42	0.42	0.090	mg/kg dry	1	"	"	"	"	
Aniline	<0.85	0.85	0.084	mg/kg dry	1	"	"	"	"	
Anthracene	<0.42	0.42	0.087	mg/kg dry	1	"	"	"	"	
Benzidine	<3.2	3.2	0.56	mg/kg dry	1	"	"	"	"	
Benzo(a)anthracene	<0.42	0.42	0.082	mg/kg dry	1	"	"	"	"	
Benzo(a)pyrene	<0.42	0.42	0.089	mg/kg dry	1	"	"	"	"	
Benzo(b)fluoranthene	<0.42	0.42	0.075	mg/kg dry	1	"	"	"	"	
Benzo(g,h,i)perylene	<0.42	0.42	0.090	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-6_6-8 (1505280-12) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<0.42	0.42	0.089	mg/kg dry	1	B5K3002	11/30/15	12/01/15	EPA 8270D	
Benzoic acid	<0.42	0.42	0.081	mg/kg dry	1	"	"	"	"	
Benzyl alcohol	<0.85	0.85	0.19	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<0.42	0.42	0.097	mg/kg dry	1	"	"	"	"	
Bis(2-chloroethyl)ether	<0.42	0.42	0.087	mg/kg dry	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<0.42	0.42	0.099	mg/kg dry	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<0.42	0.42	0.10	mg/kg dry	1	"	"	"	"	
Butyl benzyl phthalate	<0.42	0.42	0.11	mg/kg dry	1	"	"	"	"	
Carbazole	<0.42	0.42	0.096	mg/kg dry	1	"	"	"	"	
Chrysene	<0.42	0.42	0.081	mg/kg dry	1	"	"	"	"	
Dibenz(a,h)anthracene	<0.42	0.42	0.10	mg/kg dry	1	"	"	"	"	
Dibenzofuran	<0.42	0.42	0.086	mg/kg dry	1	"	"	"	"	
Diethyl phthalate	<0.42	0.42	0.080	mg/kg dry	1	"	"	"	"	
Dimethyl phthalate	<0.42	0.42	0.087	mg/kg dry	1	"	"	"	"	
Di-n-butyl phthalate	<0.42	0.42	0.10	mg/kg dry	1	"	"	"	"	
Di-n-octyl phthalate	<0.42	0.42	0.13	mg/kg dry	1	"	"	"	"	
Fluoranthene	<0.42	0.42	0.086	mg/kg dry	1	"	"	"	"	
Fluorene	<0.42	0.42	0.082	mg/kg dry	1	"	"	"	"	
Hexachlorobenzene	<0.42	0.42	0.078	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.42	0.42	0.097	mg/kg dry	1	"	"	"	"	
Hexachlorocyclopentadiene	<0.42	0.42	0.087	mg/kg dry	1	"	"	"	"	
Hexachloroethane	<0.42	0.42	0.10	mg/kg dry	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<0.42	0.42	0.091	mg/kg dry	1	"	"	"	"	
Isophorone	<0.42	0.42	0.096	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.42	0.42	0.090	mg/kg dry	1	"	"	"	"	
Nitrobenzene	<0.42	0.42	0.10	mg/kg dry	1	"	"	"	"	
N-Nitrosodimethylamine	<0.42	0.42	0.089	mg/kg dry	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<0.42	0.42	0.092	mg/kg dry	1	"	"	"	"	
N-Nitrosodiphenylamine	<0.42	0.42	0.085	mg/kg dry	1	"	"	"	"	
Pentachlorophenol	<0.85	0.85	0.24	mg/kg dry	1	"	"	"	"	
Phenanthrene	<0.42	0.42	0.084	mg/kg dry	1	"	"	"	"	
Phenol	<0.85	0.85	0.18	mg/kg dry	1	"	"	"	"	
Pyrene	<0.42	0.42	0.075	mg/kg dry	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	86.0			53-107 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	56.4			53.9-97.9 %		"	"	"	"	
Surrogate: 2-Fluorophenol	53.5			42.5-94.9 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	60.6			48.9-100 %		"	"	"	"	
Surrogate: Phenol-d6	68.3			50.4-99.6 %		"	"	"	"	
Surrogate: Terphenyl-d14	60.9			51-99.6 %		"	"	"	"	

Barr Engineering Co.	Project: 34511010	Work Order #: 1505280
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Date Reported: 12/10/15
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	

VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-12 (1505280-01) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
1,1,1,2-Tetrachloroethane	<0.27	0.27	0.027	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,1,1-Trichloroethane	<0.27	0.27	0.031	mg/kg dry	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<0.27	0.27	0.022	mg/kg dry	1	"	"	"	"	
1,1,2-Trichloroethane	<0.27	0.27	0.019	mg/kg dry	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<0.27	0.27	0.027	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.27	0.27	0.013	mg/kg dry	1	"	"	"	"	
1,1-Dichloroethene	<0.27	0.27	0.018	mg/kg dry	1	"	"	"	"	
1,1-Dichloropropene	<0.27	0.27	0.020	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.68	0.68	0.13	mg/kg dry	1	"	"	"	"	
1,2,3-Trichloropropane	<0.27	0.27	0.041	mg/kg dry	1	"	"	"	"	
1,2,4-Trichlorobenzene	<0.68	0.68	0.096	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.27	0.27	0.024	mg/kg dry	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<0.68	0.68	0.062	mg/kg dry	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<0.27	0.27	0.032	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.27	0.27	0.018	mg/kg dry	1	"	"	"	"	
1,2-Dichloroethane	<0.27	0.27	0.030	mg/kg dry	1	"	"	"	"	
1,2-Dichloropropane	<0.27	0.27	0.028	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.27	0.27	0.034	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.27	0.27	0.012	mg/kg dry	1	"	"	"	"	
1,3-Dichloropropane	<0.27	0.27	0.020	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.27	0.27	0.022	mg/kg dry	1	"	"	"	"	
2,2-Dichloropropane	<0.27	0.27	0.070	mg/kg dry	1	"	"	"	"	
2-Butanone	<1.4	1.4	0.13	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.27	0.27	0.027	mg/kg dry	1	"	"	"	"	
4-Chlorotoluene	<0.27	0.27	0.030	mg/kg dry	1	"	"	"	"	
Acetone	<1.4	1.4	0.16	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.27	0.27	0.034	mg/kg dry	1	"	"	"	"	
Benzene	<0.27	0.27	0.020	mg/kg dry	1	"	"	"	"	
Bromobenzene	<0.27	0.27	0.027	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.27	0.27	0.031	mg/kg dry	1	"	"	"	"	
Bromodichloromethane	<0.27	0.27	0.026	mg/kg dry	1	"	"	"	"	
Bromoform	<0.27	0.27	0.049	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.27	0.27	0.041	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.27	0.27	0.034	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.27	0.27	0.019	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.27	0.27	0.041	mg/kg dry	1	"	"	"	"	
Chloroform	<0.27	0.27	0.042	mg/kg dry	1	"	"	"	"	
Chloromethane	<0.27	0.27	0.036	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.27	0.27	0.016	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-12 (1505280-01) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
cis-1,3-Dichloropropene	<0.27	0.27	0.034	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
Dibromochloromethane	<0.27	0.27	0.034	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.27	0.27	0.034	mg/kg dry	1	"	"	"	"	
Dichlorodifluoromethane	<0.27	0.27	0.050	mg/kg dry	1	"	"	"	"	
Dichlorofluoromethane	<0.27	0.27	0.014	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.27	0.27	0.032	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.27	0.27	0.028	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.68	0.68	0.11	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.27	0.27	0.041	mg/kg dry	1	"	"	"	"	
m,p-Xylene	<0.54	0.54	0.065	mg/kg dry	1	"	"	"	"	
Methyl isobutyl ketone	<0.27	0.27	0.058	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.27	0.27	0.013	mg/kg dry	1	"	"	"	"	
Methylene chloride	<0.68	0.68	0.081	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.68	0.68	0.065	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.27	0.27	0.022	mg/kg dry	1	"	"	"	"	
n-Propylbenzene	<0.27	0.27	0.014	mg/kg dry	1	"	"	"	"	
o-Xylene	<0.27	0.27	0.023	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.27	0.27	0.015	mg/kg dry	1	"	"	"	"	
sec-Butylbenzene	<0.27	0.27	0.030	mg/kg dry	1	"	"	"	"	
Styrene	<0.27	0.27	0.022	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.27	0.27	0.035	mg/kg dry	1	"	"	"	"	
Tetrachloroethene	<0.27	0.27	0.051	mg/kg dry	1	"	"	"	"	
Tetrahydrofuran	<1.4	1.4	0.15	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.27	0.27	0.0092	mg/kg dry	1	"	"	"	"	
trans-1,2-Dichloroethene	<0.27	0.27	0.024	mg/kg dry	1	"	"	"	"	
trans-1,3-Dichloropropene	<0.27	0.27	0.027	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.27	0.27	0.024	mg/kg dry	1	"	"	"	"	
Trichlorofluoromethane	<0.27	0.27	0.039	mg/kg dry	1	"	"	"	"	
Vinyl chloride	<0.27	0.27	0.028	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	88.5			80-124 %		"	"	"	"	
Surrogate: Dibromofluoromethane	95.7			77.1-123 %		"	"	"	"	
Surrogate: Toluene-d8	95.3			78.1-125 %		"	"	"	"	

B-1_16-18 (1505280-02) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
1,1,1,2-Tetrachloroethane	<0.26	0.26	0.026	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,1,1-Trichloroethane	<0.26	0.26	0.030	mg/kg dry	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<0.26	0.26	0.021	mg/kg dry	1	"	"	"	"	
1,1,2-Trichloroethane	<0.26	0.26	0.018	mg/kg dry	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<0.26	0.26	0.026	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.26	0.26	0.013	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	Work Order #: 1505280
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Date Reported: 12/10/15
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	

VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_16-18 (1505280-02) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
1,1-Dichloroethene	<0.26	0.26	0.017	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,1-Dichloropropene	<0.26	0.26	0.019	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.65	0.65	0.13	mg/kg dry	1	"	"	"	"	
1,2,3-Trichloropropane	<0.26	0.26	0.039	mg/kg dry	1	"	"	"	"	
1,2,4-Trichlorobenzene	<0.65	0.65	0.092	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.26	0.26	0.023	mg/kg dry	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<0.65	0.65	0.060	mg/kg dry	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<0.26	0.26	0.031	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.26	0.26	0.017	mg/kg dry	1	"	"	"	"	
1,2-Dichloroethane	<0.26	0.26	0.029	mg/kg dry	1	"	"	"	"	
1,2-Dichloropropane	<0.26	0.26	0.027	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.26	0.26	0.012	mg/kg dry	1	"	"	"	"	
1,3-Dichloropropane	<0.26	0.26	0.019	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.26	0.26	0.021	mg/kg dry	1	"	"	"	"	
2,2-Dichloropropane	<0.26	0.26	0.068	mg/kg dry	1	"	"	"	"	
2-Butanone	<1.3	1.3	0.12	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.26	0.26	0.026	mg/kg dry	1	"	"	"	"	
4-Chlorotoluene	<0.26	0.26	0.029	mg/kg dry	1	"	"	"	"	
Acetone	<1.3	1.3	0.16	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
Benzene	<0.26	0.26	0.019	mg/kg dry	1	"	"	"	"	
Bromobenzene	<0.26	0.26	0.026	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.26	0.26	0.030	mg/kg dry	1	"	"	"	"	
Bromodichloromethane	<0.26	0.26	0.025	mg/kg dry	1	"	"	"	"	
Bromoform	<0.26	0.26	0.047	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.26	0.26	0.039	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.26	0.26	0.018	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.26	0.26	0.039	mg/kg dry	1	"	"	"	"	
Chloroform	<0.26	0.26	0.040	mg/kg dry	1	"	"	"	"	
Chloromethane	<0.26	0.26	0.035	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.26	0.26	0.016	mg/kg dry	1	"	"	"	"	
cis-1,3-Dichloropropene	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
Dibromochloromethane	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
Dichlorodifluoromethane	<0.26	0.26	0.048	mg/kg dry	1	"	"	"	"	
Dichlorofluoromethane	<0.26	0.26	0.013	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.26	0.26	0.031	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_16-18 (1505280-02) Soil Sampled: 11/23/15 17:15 Received: 11/25/15 9:30										
Ethylbenzene	<0.26	0.26	0.027	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
Hexachlorobutadiene	<0.65	0.65	0.10	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.26	0.26	0.039	mg/kg dry	1	"	"	"	"	
m,p-Xylene	<0.52	0.52	0.062	mg/kg dry	1	"	"	"	"	
Methyl isobutyl ketone	<0.26	0.26	0.056	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.26	0.26	0.013	mg/kg dry	1	"	"	"	"	
Methylene chloride	<0.65	0.65	0.078	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.65	0.65	0.062	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.26	0.26	0.021	mg/kg dry	1	"	"	"	"	
n-Propylbenzene	<0.26	0.26	0.013	mg/kg dry	1	"	"	"	"	
o-Xylene	<0.26	0.26	0.022	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.26	0.26	0.014	mg/kg dry	1	"	"	"	"	
sec-Butylbenzene	<0.26	0.26	0.029	mg/kg dry	1	"	"	"	"	
Styrene	<0.26	0.26	0.021	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.26	0.26	0.034	mg/kg dry	1	"	"	"	"	
Tetrachloroethene	<0.26	0.26	0.049	mg/kg dry	1	"	"	"	"	
Tetrahydrofuran	<1.3	1.3	0.14	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.26	0.26	0.0088	mg/kg dry	1	"	"	"	"	
trans-1,2-Dichloroethene	<0.26	0.26	0.023	mg/kg dry	1	"	"	"	"	
trans-1,3-Dichloropropene	<0.26	0.26	0.026	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.26	0.26	0.023	mg/kg dry	1	"	"	"	"	
Trichlorofluoromethane	<0.26	0.26	0.038	mg/kg dry	1	"	"	"	"	
Vinyl chloride	<0.26	0.26	0.027	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	89.4			80-124 %		"	"	"	"	
Surrogate: Dibromofluoromethane	97.3			77.1-123 %		"	"	"	"	
Surrogate: Toluene-d8	94.6			78.1-125 %		"	"	"	"	

B-2a_2-4 (1505280-03) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
1,1,1,2-Tetrachloroethane	<0.24	0.24	0.024	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,1,1-Trichloroethane	<0.24	0.24	0.028	mg/kg dry	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"	
1,1,2-Trichloroethane	<0.24	0.24	0.017	mg/kg dry	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	
1,1-Dichloroethene	<0.24	0.24	0.016	mg/kg dry	1	"	"	"	"	
1,1-Dichloropropene	<0.24	0.24	0.018	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.60	0.60	0.12	mg/kg dry	1	"	"	"	"	
1,2,3-Trichloropropane	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
1,2,4-Trichlorobenzene	<0.60	0.60	0.086	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.24	0.24	0.022	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a_2-4 (1505280-03) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
1,2-Dibromo-3-chloropropane	<0.60	0.60	0.055	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,2-Dibromoethane (EDB)	<0.24	0.24	0.029	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.24	0.24	0.016	mg/kg dry	1	"	"	"	"	
1,2-Dichloroethane	<0.24	0.24	0.027	mg/kg dry	1	"	"	"	"	
1,2-Dichloropropane	<0.24	0.24	0.025	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.24	0.24	0.011	mg/kg dry	1	"	"	"	"	
1,3-Dichloropropane	<0.24	0.24	0.018	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"	
2,2-Dichloropropane	<0.24	0.24	0.063	mg/kg dry	1	"	"	"	"	
2-Butanone	<1.2	1.2	0.11	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	
4-Chlorotoluene	<0.24	0.24	0.027	mg/kg dry	1	"	"	"	"	
Acetone	<1.2	1.2	0.14	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Benzene	<0.24	0.24	0.018	mg/kg dry	1	"	"	"	"	
Bromobenzene	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.24	0.24	0.028	mg/kg dry	1	"	"	"	"	
Bromodichloromethane	<0.24	0.24	0.023	mg/kg dry	1	"	"	"	"	
Bromoform	<0.24	0.24	0.043	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.24	0.24	0.017	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
Chloroform	<0.24	0.24	0.037	mg/kg dry	1	"	"	"	"	
Chloromethane	<0.24	0.24	0.033	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.24	0.24	0.014	mg/kg dry	1	"	"	"	"	
cis-1,3-Dichloropropene	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Dibromochloromethane	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Dichlorodifluoromethane	<0.24	0.24	0.045	mg/kg dry	1	"	"	"	"	
Dichlorofluoromethane	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.24	0.24	0.029	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.24	0.24	0.025	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.60	0.60	0.095	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
m,p-Xylene	<0.48	0.48	0.058	mg/kg dry	1	"	"	"	"	
Methyl isobutyl ketone	<0.24	0.24	0.052	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a_2-4 (1505280-03) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
Methylene chloride	<0.60	0.60	0.072	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
Naphthalene	<0.60	0.60	0.058	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"	
n-Propylbenzene	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	
o-Xylene	<0.24	0.24	0.020	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.24	0.24	0.013	mg/kg dry	1	"	"	"	"	
sec-Butylbenzene	<0.24	0.24	0.027	mg/kg dry	1	"	"	"	"	
Styrene	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.24	0.24	0.031	mg/kg dry	1	"	"	"	"	
Tetrachloroethene	<0.24	0.24	0.046	mg/kg dry	1	"	"	"	"	
Tetrahydrofuran	<1.2	1.2	0.13	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.24	0.24	0.0082	mg/kg dry	1	"	"	"	"	
trans-1,2-Dichloroethene	<0.24	0.24	0.022	mg/kg dry	1	"	"	"	"	
trans-1,3-Dichloropropene	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.24	0.24	0.022	mg/kg dry	1	"	"	"	"	
Trichlorofluoromethane	<0.24	0.24	0.035	mg/kg dry	1	"	"	"	"	
Vinyl chloride	<0.24	0.24	0.025	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	89.9		80-124	%		"	"	"	"	
Surrogate: Dibromofluoromethane	96.9		77.1-123	%		"	"	"	"	
Surrogate: Toluene-d8	95.6		78.1-125	%		"	"	"	"	

B-2a_4-6 (1505280-04) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
1,1,1,2-Tetrachloroethane	<0.24	0.24	0.024	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,1,1-Trichloroethane	<0.24	0.24	0.028	mg/kg dry	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"	
1,1,2-Trichloroethane	<0.24	0.24	0.017	mg/kg dry	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	
1,1-Dichloroethene	<0.24	0.24	0.016	mg/kg dry	1	"	"	"	"	
1,1-Dichloropropene	<0.24	0.24	0.018	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.60	0.60	0.12	mg/kg dry	1	"	"	"	"	
1,2,3-Trichloropropane	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
1,2,4-Trichlorobenzene	<0.60	0.60	0.086	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.24	0.24	0.022	mg/kg dry	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<0.60	0.60	0.055	mg/kg dry	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<0.24	0.24	0.029	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.24	0.24	0.016	mg/kg dry	1	"	"	"	"	
1,2-Dichloroethane	<0.24	0.24	0.027	mg/kg dry	1	"	"	"	"	
1,2-Dichloropropane	<0.24	0.24	0.025	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a_4-6 (1505280-04) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
1,3-Dichlorobenzene	<0.24	0.24	0.011	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,3-Dichloropropane	<0.24	0.24	0.018	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"	
2,2-Dichloropropane	<0.24	0.24	0.063	mg/kg dry	1	"	"	"	"	
2-Butanone	<1.2	1.2	0.11	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	
4-Chlorotoluene	<0.24	0.24	0.027	mg/kg dry	1	"	"	"	"	
Acetone	<1.2	1.2	0.14	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Benzene	<0.24	0.24	0.018	mg/kg dry	1	"	"	"	"	
Bromobenzene	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.24	0.24	0.028	mg/kg dry	1	"	"	"	"	
Bromodichloromethane	<0.24	0.24	0.023	mg/kg dry	1	"	"	"	"	
Bromoform	<0.24	0.24	0.043	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.24	0.24	0.017	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
Chloroform	<0.24	0.24	0.037	mg/kg dry	1	"	"	"	"	
Chloromethane	<0.24	0.24	0.033	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.24	0.24	0.014	mg/kg dry	1	"	"	"	"	
cis-1,3-Dichloropropene	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Dibromochloromethane	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Dichlorodifluoromethane	<0.24	0.24	0.045	mg/kg dry	1	"	"	"	"	
Dichlorofluoromethane	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.24	0.24	0.029	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.24	0.24	0.025	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.60	0.60	0.095	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
m,p-Xylene	<0.48	0.48	0.058	mg/kg dry	1	"	"	"	"	
Methyl isobutyl ketone	<0.24	0.24	0.052	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	
Methylene chloride	<0.60	0.60	0.072	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.60	0.60	0.058	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"	
n-Propylbenzene	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	
o-Xylene	<0.24	0.24	0.020	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.24	0.24	0.013	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a_4-6 (1505280-04) Soil Sampled: 11/24/15 10:00 Received: 11/25/15 9:30										
sec-Butylbenzene	<0.24	0.24	0.027	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
Styrene	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.24	0.24	0.031	mg/kg dry	1	"	"	"	"	
Tetrachloroethene	<0.24	0.24	0.046	mg/kg dry	1	"	"	"	"	
Tetrahydrofuran	<1.2	1.2	0.13	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.24	0.24	0.0082	mg/kg dry	1	"	"	"	"	
trans-1,2-Dichloroethene	<0.24	0.24	0.022	mg/kg dry	1	"	"	"	"	
trans-1,3-Dichloropropene	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.24	0.24	0.022	mg/kg dry	1	"	"	"	"	
Trichlorofluoromethane	<0.24	0.24	0.035	mg/kg dry	1	"	"	"	"	
Vinyl chloride	<0.24	0.24	0.025	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	88.7			80-124 %		"	"	"	"	
Surrogate: Dibromofluoromethane	97.0			77.1-123 %		"	"	"	"	
Surrogate: Toluene-d8	96.6			78.1-125 %		"	"	"	"	
B-3_6-8 (1505280-05) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
1,1,1,2-Tetrachloroethane	<0.26	0.26	0.026	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,1,1-Trichloroethane	<0.26	0.26	0.030	mg/kg dry	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<0.26	0.26	0.021	mg/kg dry	1	"	"	"	"	
1,1,2-Trichloroethane	<0.26	0.26	0.018	mg/kg dry	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<0.26	0.26	0.026	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.26	0.26	0.013	mg/kg dry	1	"	"	"	"	
1,1-Dichloroethene	<0.26	0.26	0.017	mg/kg dry	1	"	"	"	"	
1,1-Dichloropropene	<0.26	0.26	0.019	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.65	0.65	0.13	mg/kg dry	1	"	"	"	"	
1,2,3-Trichloropropane	<0.26	0.26	0.039	mg/kg dry	1	"	"	"	"	
1,2,4-Trichlorobenzene	<0.65	0.65	0.092	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.26	0.26	0.023	mg/kg dry	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<0.65	0.65	0.060	mg/kg dry	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<0.26	0.26	0.031	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.26	0.26	0.017	mg/kg dry	1	"	"	"	"	
1,2-Dichloroethane	<0.26	0.26	0.029	mg/kg dry	1	"	"	"	"	
1,2-Dichloropropane	<0.26	0.26	0.027	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.26	0.26	0.012	mg/kg dry	1	"	"	"	"	
1,3-Dichloropropane	<0.26	0.26	0.019	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.26	0.26	0.021	mg/kg dry	1	"	"	"	"	
2,2-Dichloropropane	<0.26	0.26	0.068	mg/kg dry	1	"	"	"	"	
2-Butanone	<1.3	1.3	0.12	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.26	0.26	0.026	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_6-8 (1505280-05) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
4-Chlorotoluene	<0.26	0.26	0.029	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
Acetone	<1.3	1.3	0.16	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
Benzene	<0.26	0.26	0.019	mg/kg dry	1	"	"	"	"	
Bromobenzene	<0.26	0.26	0.026	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.26	0.26	0.030	mg/kg dry	1	"	"	"	"	
Bromodichloromethane	<0.26	0.26	0.025	mg/kg dry	1	"	"	"	"	
Bromoform	<0.26	0.26	0.047	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.26	0.26	0.039	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.26	0.26	0.018	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.26	0.26	0.039	mg/kg dry	1	"	"	"	"	
Chloroform	<0.26	0.26	0.040	mg/kg dry	1	"	"	"	"	
Chloromethane	<0.26	0.26	0.035	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.26	0.26	0.016	mg/kg dry	1	"	"	"	"	
cis-1,3-Dichloropropene	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
Dibromochloromethane	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.26	0.26	0.032	mg/kg dry	1	"	"	"	"	
Dichlorodifluoromethane	<0.26	0.26	0.048	mg/kg dry	1	"	"	"	"	
Dichlorofluoromethane	<0.26	0.26	0.013	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.26	0.26	0.031	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.26	0.26	0.027	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.65	0.65	0.10	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.26	0.26	0.039	mg/kg dry	1	"	"	"	"	
m,p-Xylene	<0.52	0.52	0.062	mg/kg dry	1	"	"	"	"	
Methyl isobutyl ketone	<0.26	0.26	0.056	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.26	0.26	0.013	mg/kg dry	1	"	"	"	"	
Methylene chloride	<0.65	0.65	0.078	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.65	0.65	0.062	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.26	0.26	0.021	mg/kg dry	1	"	"	"	"	
n-Propylbenzene	<0.26	0.26	0.013	mg/kg dry	1	"	"	"	"	
o-Xylene	<0.26	0.26	0.022	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.26	0.26	0.014	mg/kg dry	1	"	"	"	"	
sec-Butylbenzene	<0.26	0.26	0.029	mg/kg dry	1	"	"	"	"	
Styrene	<0.26	0.26	0.021	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.26	0.26	0.034	mg/kg dry	1	"	"	"	"	
Tetrachloroethene	<0.26	0.26	0.049	mg/kg dry	1	"	"	"	"	
Tetrahydrofuran	<1.3	1.3	0.14	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.26	0.26	0.0088	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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B-3_6-8 (1505280-05) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30

trans-1,2-Dichloroethene	<0.26	0.26	0.023	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
trans-1,3-Dichloropropene	<0.26	0.26	0.026	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.26	0.26	0.023	mg/kg dry	1	"	"	"	"	
Trichlorofluoromethane	<0.26	0.26	0.038	mg/kg dry	1	"	"	"	"	
Vinyl chloride	<0.26	0.26	0.027	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	88.9			80-124 %		"	"	"	"	
Surrogate: Dibromofluoromethane	96.5			77.1-123 %		"	"	"	"	
Surrogate: Toluene-d8	94.7			78.1-125 %		"	"	"	"	

B-3_0-2 (1505280-06) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30

1,1,1,2-Tetrachloroethane	<0.21	0.21	0.021	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,1,1-Trichloroethane	<0.21	0.21	0.024	mg/kg dry	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
1,1,2-Trichloroethane	<0.21	0.21	0.015	mg/kg dry	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.21	0.21	0.010	mg/kg dry	1	"	"	"	"	
1,1-Dichloroethene	<0.21	0.21	0.014	mg/kg dry	1	"	"	"	"	
1,1-Dichloropropene	<0.21	0.21	0.016	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.53	0.53	0.10	mg/kg dry	1	"	"	"	"	
1,2,3-Trichloropropane	<0.21	0.21	0.032	mg/kg dry	1	"	"	"	"	
1,2,4-Trichlorobenzene	<0.53	0.53	0.075	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.21	0.21	0.019	mg/kg dry	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<0.53	0.53	0.049	mg/kg dry	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<0.21	0.21	0.025	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.21	0.21	0.014	mg/kg dry	1	"	"	"	"	
1,2-Dichloroethane	<0.21	0.21	0.023	mg/kg dry	1	"	"	"	"	
1,2-Dichloropropane	<0.21	0.21	0.022	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.21	0.21	0.0095	mg/kg dry	1	"	"	"	"	
1,3-Dichloropropane	<0.21	0.21	0.016	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
2,2-Dichloropropane	<0.21	0.21	0.055	mg/kg dry	1	"	"	"	"	
2-Butanone	<1.1	1.1	0.099	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	
4-Chlorotoluene	<0.21	0.21	0.023	mg/kg dry	1	"	"	"	"	
Acetone	<1.1	1.1	0.13	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
Benzene	<0.21	0.21	0.016	mg/kg dry	1	"	"	"	"	
Bromobenzene	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.21	0.21	0.024	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_0-2 (1505280-06) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30										
Bromodichloromethane	<0.21	0.21	0.020	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
Bromoform	<0.21	0.21	0.038	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.21	0.21	0.032	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.21	0.21	0.015	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.21	0.21	0.032	mg/kg dry	1	"	"	"	"	
Chloroform	<0.21	0.21	0.033	mg/kg dry	1	"	"	"	"	
Chloromethane	<0.21	0.21	0.029	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.21	0.21	0.013	mg/kg dry	1	"	"	"	"	
cis-1,3-Dichloropropene	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
Dibromochloromethane	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
Dichlorodifluoromethane	<0.21	0.21	0.039	mg/kg dry	1	"	"	"	"	
Dichlorofluoromethane	<0.21	0.21	0.011	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.21	0.21	0.025	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.21	0.21	0.022	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.53	0.53	0.084	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.21	0.21	0.032	mg/kg dry	1	"	"	"	"	
m,p-Xylene	<0.42	0.42	0.051	mg/kg dry	1	"	"	"	"	
Methyl isobutyl ketone	<0.21	0.21	0.045	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.21	0.21	0.010	mg/kg dry	1	"	"	"	"	
Methylene chloride	<0.53	0.53	0.063	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.53	0.53	0.051	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
n-Propylbenzene	<0.21	0.21	0.011	mg/kg dry	1	"	"	"	"	
o-Xylene	<0.21	0.21	0.018	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.21	0.21	0.012	mg/kg dry	1	"	"	"	"	
sec-Butylbenzene	<0.21	0.21	0.023	mg/kg dry	1	"	"	"	"	
Styrene	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.21	0.21	0.027	mg/kg dry	1	"	"	"	"	
Tetrachloroethene	<0.21	0.21	0.040	mg/kg dry	1	"	"	"	"	
Tetrahydrofuran	<1.1	1.1	0.12	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.21	0.21	0.0072	mg/kg dry	1	"	"	"	"	
trans-1,2-Dichloroethene	<0.21	0.21	0.019	mg/kg dry	1	"	"	"	"	
trans-1,3-Dichloropropene	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.21	0.21	0.019	mg/kg dry	1	"	"	"	"	
Trichlorofluoromethane	<0.21	0.21	0.031	mg/kg dry	1	"	"	"	"	
Vinyl chloride	<0.21	0.21	0.022	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	88.7			80-124 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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B-3_0-2 (1505280-06) Soil Sampled: 11/24/15 11:00 Received: 11/25/15 9:30

Surrogate: Dibromofluoromethane	95.6		77.1-123	%		B5L0233	12/01/15	12/01/15	EPA 8260B	
Surrogate: Toluene-d8	94.0		78.1-125	%		"	"	"	"	

B-4_2-4 (1505280-07) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30

1,1,1,2-Tetrachloroethane	<0.21	0.21	0.021	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,1,1-Trichloroethane	<0.21	0.21	0.024	mg/kg dry	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
1,1,2-Trichloroethane	<0.21	0.21	0.015	mg/kg dry	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.21	0.21	0.010	mg/kg dry	1	"	"	"	"	
1,1-Dichloroethene	<0.21	0.21	0.014	mg/kg dry	1	"	"	"	"	
1,1-Dichloropropene	<0.21	0.21	0.016	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.53	0.53	0.10	mg/kg dry	1	"	"	"	"	
1,2,3-Trichloropropane	<0.21	0.21	0.032	mg/kg dry	1	"	"	"	"	
1,2,4-Trichlorobenzene	<0.53	0.53	0.076	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.21	0.21	0.019	mg/kg dry	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<0.53	0.53	0.049	mg/kg dry	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.21	0.21	0.014	mg/kg dry	1	"	"	"	"	
1,2-Dichloroethane	<0.21	0.21	0.023	mg/kg dry	1	"	"	"	"	
1,2-Dichloropropane	<0.21	0.21	0.022	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.21	0.21	0.027	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.21	0.21	0.0096	mg/kg dry	1	"	"	"	"	
1,3-Dichloropropane	<0.21	0.21	0.016	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
2,2-Dichloropropane	<0.21	0.21	0.055	mg/kg dry	1	"	"	"	"	
2-Butanone	<1.1	1.1	0.10	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	
4-Chlorotoluene	<0.21	0.21	0.023	mg/kg dry	1	"	"	"	"	
Acetone	<1.1	1.1	0.13	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.21	0.21	0.027	mg/kg dry	1	"	"	"	"	
Benzene	<0.21	0.21	0.016	mg/kg dry	1	"	"	"	"	
Bromobenzene	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.21	0.21	0.024	mg/kg dry	1	"	"	"	"	
Bromodichloromethane	<0.21	0.21	0.020	mg/kg dry	1	"	"	"	"	
Bromoform	<0.21	0.21	0.038	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.21	0.21	0.032	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.21	0.21	0.027	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.21	0.21	0.015	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.21	0.21	0.032	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4_2-4 (1505280-07) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
Chloroform	<0.21	0.21	0.033	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
Chloromethane	<0.21	0.21	0.029	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.21	0.21	0.013	mg/kg dry	1	"	"	"	"	
cis-1,3-Dichloropropene	<0.21	0.21	0.027	mg/kg dry	1	"	"	"	"	
Dibromochloromethane	<0.21	0.21	0.027	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.21	0.21	0.027	mg/kg dry	1	"	"	"	"	
Dichlorodifluoromethane	<0.21	0.21	0.039	mg/kg dry	1	"	"	"	"	
Dichlorofluoromethane	<0.21	0.21	0.011	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.21	0.21	0.022	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.53	0.53	0.084	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.21	0.21	0.032	mg/kg dry	1	"	"	"	"	
m,p-Xylene	<0.43	0.43	0.051	mg/kg dry	1	"	"	"	"	
Methyl isobutyl ketone	<0.21	0.21	0.046	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.21	0.21	0.010	mg/kg dry	1	"	"	"	"	
Methylene chloride	<0.53	0.53	0.064	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.53	0.53	0.051	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
n-Propylbenzene	<0.21	0.21	0.011	mg/kg dry	1	"	"	"	"	
o-Xylene	<0.21	0.21	0.018	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.21	0.21	0.012	mg/kg dry	1	"	"	"	"	
sec-Butylbenzene	<0.21	0.21	0.023	mg/kg dry	1	"	"	"	"	
Styrene	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.21	0.21	0.028	mg/kg dry	1	"	"	"	"	
Tetrachloroethene	<0.21	0.21	0.040	mg/kg dry	1	"	"	"	"	
Tetrahydrofuran	<1.1	1.1	0.12	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.21	0.21	0.0072	mg/kg dry	1	"	"	"	"	
trans-1,2-Dichloroethene	<0.21	0.21	0.019	mg/kg dry	1	"	"	"	"	
trans-1,3-Dichloropropene	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.21	0.21	0.019	mg/kg dry	1	"	"	"	"	
Trichlorofluoromethane	<0.21	0.21	0.031	mg/kg dry	1	"	"	"	"	
Vinyl chloride	<0.21	0.21	0.022	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	89.0			80-124 %		"	"	"	"	
Surrogate: Dibromofluoromethane	99.1			77.1-123 %		"	"	"	"	
Surrogate: Toluene-d8	96.1			78.1-125 %		"	"	"	"	

B-4_8-10 (1505280-08) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30

1,1,1,2-Tetrachloroethane	<0.24	0.24	0.024	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B
1,1,1-Trichloroethane	<0.24	0.24	0.028	mg/kg dry	1	"	"	"	"
1,1,2,2-Tetrachloroethane	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4_8-10 (1505280-08) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
1,1,2-Trichloroethane	<0.24	0.24	0.017	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	
1,1-Dichloroethene	<0.24	0.24	0.016	mg/kg dry	1	"	"	"	"	
1,1-Dichloropropene	<0.24	0.24	0.018	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.60	0.60	0.12	mg/kg dry	1	"	"	"	"	
1,2,3-Trichloropropane	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
1,2,4-Trichlorobenzene	<0.60	0.60	0.086	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.24	0.24	0.022	mg/kg dry	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<0.60	0.60	0.055	mg/kg dry	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<0.24	0.24	0.029	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.24	0.24	0.016	mg/kg dry	1	"	"	"	"	
1,2-Dichloroethane	<0.24	0.24	0.027	mg/kg dry	1	"	"	"	"	
1,2-Dichloropropane	<0.24	0.24	0.025	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.24	0.24	0.011	mg/kg dry	1	"	"	"	"	
1,3-Dichloropropane	<0.24	0.24	0.018	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"	
2,2-Dichloropropane	<0.24	0.24	0.063	mg/kg dry	1	"	"	"	"	
2-Butanone	<1.2	1.2	0.11	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	
4-Chlorotoluene	<0.24	0.24	0.027	mg/kg dry	1	"	"	"	"	
Acetone	<1.2	1.2	0.14	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Benzene	<0.24	0.24	0.018	mg/kg dry	1	"	"	"	"	
Bromobenzene	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.24	0.24	0.028	mg/kg dry	1	"	"	"	"	
Bromodichloromethane	<0.24	0.24	0.023	mg/kg dry	1	"	"	"	"	
Bromoform	<0.24	0.24	0.043	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.24	0.24	0.017	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
Chloroform	<0.24	0.24	0.037	mg/kg dry	1	"	"	"	"	
Chloromethane	<0.24	0.24	0.033	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.24	0.24	0.014	mg/kg dry	1	"	"	"	"	
cis-1,3-Dichloropropene	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Dibromochloromethane	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.24	0.24	0.030	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4_8-10 (1505280-08) Soil Sampled: 11/24/15 12:00 Received: 11/25/15 9:30										
Dichlorodifluoromethane	<0.24	0.24	0.045	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
Dichlorofluoromethane	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.24	0.24	0.029	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.24	0.24	0.025	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.60	0.60	0.095	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.24	0.24	0.036	mg/kg dry	1	"	"	"	"	
m,p-Xylene	<0.48	0.48	0.058	mg/kg dry	1	"	"	"	"	
Methyl isobutyl ketone	<0.24	0.24	0.052	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	
Methylene chloride	<0.60	0.60	0.072	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.60	0.60	0.058	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"	
n-Propylbenzene	<0.24	0.24	0.012	mg/kg dry	1	"	"	"	"	
o-Xylene	<0.24	0.24	0.020	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.24	0.24	0.013	mg/kg dry	1	"	"	"	"	
sec-Butylbenzene	<0.24	0.24	0.027	mg/kg dry	1	"	"	"	"	
Styrene	<0.24	0.24	0.019	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.24	0.24	0.031	mg/kg dry	1	"	"	"	"	
Tetrachloroethene	<0.24	0.24	0.046	mg/kg dry	1	"	"	"	"	
Tetrahydrofuran	<1.2	1.2	0.13	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.24	0.24	0.0082	mg/kg dry	1	"	"	"	"	
trans-1,2-Dichloroethene	<0.24	0.24	0.022	mg/kg dry	1	"	"	"	"	
trans-1,3-Dichloropropene	<0.24	0.24	0.024	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.24	0.24	0.022	mg/kg dry	1	"	"	"	"	
Trichlorofluoromethane	<0.24	0.24	0.035	mg/kg dry	1	"	"	"	"	
Vinyl chloride	<0.24	0.24	0.025	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	89.2		80-124	%		"	"	"	"	
Surrogate: Dibromofluoromethane	98.2		77.1-123	%		"	"	"	"	
Surrogate: Toluene-d8	95.1		78.1-125	%		"	"	"	"	

B-5_0-2 (1505280-09) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30

1,1,1,2-Tetrachloroethane	<0.21	0.21	0.021	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,1,1-Trichloroethane	<0.21	0.21	0.024	mg/kg dry	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
1,1,2-Trichloroethane	<0.21	0.21	0.015	mg/kg dry	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.21	0.21	0.010	mg/kg dry	1	"	"	"	"	
1,1-Dichloroethene	<0.21	0.21	0.013	mg/kg dry	1	"	"	"	"	
1,1-Dichloropropene	<0.21	0.21	0.016	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.52	0.52	0.10	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-5_0-2 (1505280-09) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
1,2,3-Trichloropropane	<0.21	0.21	0.031	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
1,2,4-Trichlorobenzene	<0.52	0.52	0.074	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.21	0.21	0.019	mg/kg dry	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<0.52	0.52	0.048	mg/kg dry	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<0.21	0.21	0.025	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.21	0.21	0.013	mg/kg dry	1	"	"	"	"	
1,2-Dichloroethane	<0.21	0.21	0.023	mg/kg dry	1	"	"	"	"	
1,2-Dichloropropane	<0.21	0.21	0.022	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.21	0.21	0.0093	mg/kg dry	1	"	"	"	"	
1,3-Dichloropropane	<0.21	0.21	0.016	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
2,2-Dichloropropane	<0.21	0.21	0.054	mg/kg dry	1	"	"	"	"	
2-Butanone	<1.0	1.0	0.097	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	
4-Chlorotoluene	<0.21	0.21	0.023	mg/kg dry	1	"	"	"	"	
Acetone	<1.0	1.0	0.12	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
Benzene	<0.21	0.21	0.016	mg/kg dry	1	"	"	"	"	
Bromobenzene	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.21	0.21	0.024	mg/kg dry	1	"	"	"	"	
Bromodichloromethane	<0.21	0.21	0.020	mg/kg dry	1	"	"	"	"	
Bromoform	<0.21	0.21	0.037	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.21	0.21	0.031	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.21	0.21	0.015	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.21	0.21	0.031	mg/kg dry	1	"	"	"	"	
Chloroform	<0.21	0.21	0.032	mg/kg dry	1	"	"	"	"	
Chloromethane	<0.21	0.21	0.028	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.21	0.21	0.012	mg/kg dry	1	"	"	"	"	
cis-1,3-Dichloropropene	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
Dibromochloromethane	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.21	0.21	0.026	mg/kg dry	1	"	"	"	"	
Dichlorodifluoromethane	<0.21	0.21	0.038	mg/kg dry	1	"	"	"	"	
Dichlorofluoromethane	<0.21	0.21	0.010	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.21	0.21	0.025	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.21	0.21	0.022	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.52	0.52	0.082	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.21	0.21	0.031	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-5_0-2 (1505280-09) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
m,p-Xylene	<0.41	0.41	0.050	mg/kg dry	1	B5L0233	12/01/15	12/01/15	EPA 8260B	
Methyl isobutyl ketone	<0.21	0.21	0.045	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.21	0.21	0.010	mg/kg dry	1	"	"	"	"	
Methylene chloride	<0.52	0.52	0.062	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.52	0.52	0.050	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
n-Propylbenzene	<0.21	0.21	0.010	mg/kg dry	1	"	"	"	"	
o-Xylene	<0.21	0.21	0.018	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.21	0.21	0.011	mg/kg dry	1	"	"	"	"	
sec-Butylbenzene	<0.21	0.21	0.023	mg/kg dry	1	"	"	"	"	
Styrene	<0.21	0.21	0.017	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.21	0.21	0.027	mg/kg dry	1	"	"	"	"	
Tetrachloroethene	<0.21	0.21	0.039	mg/kg dry	1	"	"	"	"	
Tetrahydrofuran	<1.0	1.0	0.11	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.21	0.21	0.0070	mg/kg dry	1	"	"	"	"	
trans-1,2-Dichloroethene	<0.21	0.21	0.019	mg/kg dry	1	"	"	"	"	
trans-1,3-Dichloropropene	<0.21	0.21	0.021	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.21	0.21	0.019	mg/kg dry	1	"	"	"	"	
Trichlorofluoromethane	<0.21	0.21	0.030	mg/kg dry	1	"	"	"	"	
Vinyl chloride	<0.21	0.21	0.022	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	90.3			80-124 %		"	"	"	"	
Surrogate: Dibromofluoromethane	98.0			77.1-123 %		"	"	"	"	
Surrogate: Toluene-d8	95.7			78.1-125 %		"	"	"	"	

B-5_6-8 (1505280-10) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
1,1,1,2-Tetrachloroethane	<0.22	0.22	0.022	mg/kg dry	1	B5L0234	12/02/15	12/02/15	EPA 8260B	
1,1,1-Trichloroethane	<0.22	0.22	0.025	mg/kg dry	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<0.22	0.22	0.018	mg/kg dry	1	"	"	"	"	
1,1,2-Trichloroethane	<0.22	0.22	0.015	mg/kg dry	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<0.22	0.22	0.022	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.22	0.22	0.011	mg/kg dry	1	"	"	"	"	
1,1-Dichloroethene	<0.22	0.22	0.014	mg/kg dry	1	"	"	"	"	
1,1-Dichloropropene	<0.22	0.22	0.016	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.55	0.55	0.11	mg/kg dry	1	"	"	"	"	
1,2,3-Trichloropropane	<0.22	0.22	0.033	mg/kg dry	1	"	"	"	"	
1,2,4-Trichlorobenzene	<0.55	0.55	0.078	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.22	0.22	0.020	mg/kg dry	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<0.55	0.55	0.051	mg/kg dry	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<0.22	0.22	0.026	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.22	0.22	0.014	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-5_6-8 (1505280-10) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
1,2-Dichloroethane	<0.22	0.22	0.024	mg/kg dry	1	B5L0234	12/02/15	12/02/15	EPA 8260B	
1,2-Dichloropropane	<0.22	0.22	0.023	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.22	0.22	0.027	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.22	0.22	0.0099	mg/kg dry	1	"	"	"	"	
1,3-Dichloropropane	<0.22	0.22	0.016	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.22	0.22	0.018	mg/kg dry	1	"	"	"	"	
2,2-Dichloropropane	<0.22	0.22	0.057	mg/kg dry	1	"	"	"	"	
2-Butanone	<1.1	1.1	0.10	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.22	0.22	0.022	mg/kg dry	1	"	"	"	"	
4-Chlorotoluene	<0.22	0.22	0.024	mg/kg dry	1	"	"	"	"	
Acetone	<1.1	1.1	0.13	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.22	0.22	0.027	mg/kg dry	1	"	"	"	"	
Benzene	<0.22	0.22	0.016	mg/kg dry	1	"	"	"	"	
Bromobenzene	<0.22	0.22	0.022	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.22	0.22	0.025	mg/kg dry	1	"	"	"	"	
Bromodichloromethane	<0.22	0.22	0.021	mg/kg dry	1	"	"	"	"	
Bromoform	<0.22	0.22	0.040	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.22	0.22	0.033	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.22	0.22	0.027	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.22	0.22	0.015	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.22	0.22	0.033	mg/kg dry	1	"	"	"	"	
Chloroform	<0.22	0.22	0.034	mg/kg dry	1	"	"	"	"	
Chloromethane	<0.22	0.22	0.030	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.22	0.22	0.013	mg/kg dry	1	"	"	"	"	
cis-1,3-Dichloropropene	<0.22	0.22	0.027	mg/kg dry	1	"	"	"	"	
Dibromochloromethane	<0.22	0.22	0.027	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.22	0.22	0.027	mg/kg dry	1	"	"	"	"	
Dichlorodifluoromethane	<0.22	0.22	0.041	mg/kg dry	1	"	"	"	"	
Dichlorofluoromethane	<0.22	0.22	0.011	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.22	0.22	0.026	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.22	0.22	0.023	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.55	0.55	0.087	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.22	0.22	0.033	mg/kg dry	1	"	"	"	"	
m,p-Xylene	<0.44	0.44	0.053	mg/kg dry	1	"	"	"	"	
Methyl isobutyl ketone	<0.22	0.22	0.047	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.22	0.22	0.011	mg/kg dry	1	"	"	"	"	
Methylene chloride	<0.55	0.55	0.066	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.55	0.55	0.053	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.22	0.22	0.018	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-5_6-8 (1505280-10) Soil Sampled: 11/24/15 12:45 Received: 11/25/15 9:30										
n-Propylbenzene	<0.22	0.22	0.011	mg/kg dry	1	B5L0234	12/02/15	12/02/15	EPA 8260B	
o-Xylene	<0.22	0.22	0.019	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.22	0.22	0.012	mg/kg dry	1	"	"	"	"	
sec-Butylbenzene	<0.22	0.22	0.024	mg/kg dry	1	"	"	"	"	
Styrene	<0.22	0.22	0.018	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.22	0.22	0.029	mg/kg dry	1	"	"	"	"	
Tetrachloroethene	<0.22	0.22	0.042	mg/kg dry	1	"	"	"	"	
Tetrahydrofuran	<1.1	1.1	0.12	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.22	0.22	0.0075	mg/kg dry	1	"	"	"	"	
trans-1,2-Dichloroethene	<0.22	0.22	0.020	mg/kg dry	1	"	"	"	"	
trans-1,3-Dichloropropene	<0.22	0.22	0.022	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.22	0.22	0.020	mg/kg dry	1	"	"	"	"	
Trichlorofluoromethane	<0.22	0.22	0.032	mg/kg dry	1	"	"	"	"	
Vinyl chloride	<0.22	0.22	0.023	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	91.4			80-124 %		"	"	"	"	
Surrogate: Dibromofluoromethane	98.4			77.1-123 %		"	"	"	"	
Surrogate: Toluene-d8	96.9			78.1-125 %		"	"	"	"	

B-6_0-2 (1505280-11) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
1,1,1,2-Tetrachloroethane	<0.22	0.22	0.022	mg/kg dry	1	B5L0234	12/02/15	12/02/15	EPA 8260B	
1,1,1-Trichloroethane	<0.22	0.22	0.026	mg/kg dry	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<0.22	0.22	0.018	mg/kg dry	1	"	"	"	"	
1,1,2-Trichloroethane	<0.22	0.22	0.016	mg/kg dry	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<0.22	0.22	0.022	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.22	0.22	0.011	mg/kg dry	1	"	"	"	"	
1,1-Dichloroethene	<0.22	0.22	0.015	mg/kg dry	1	"	"	"	"	
1,1-Dichloropropene	<0.22	0.22	0.017	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.56	0.56	0.11	mg/kg dry	1	"	"	"	"	
1,2,3-Trichloropropane	<0.22	0.22	0.034	mg/kg dry	1	"	"	"	"	
1,2,4-Trichlorobenzene	<0.56	0.56	0.080	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.22	0.22	0.020	mg/kg dry	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<0.56	0.56	0.052	mg/kg dry	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<0.22	0.22	0.027	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.22	0.22	0.015	mg/kg dry	1	"	"	"	"	
1,2-Dichloroethane	<0.22	0.22	0.025	mg/kg dry	1	"	"	"	"	
1,2-Dichloropropane	<0.22	0.22	0.024	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.22	0.22	0.028	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.22	0.22	0.010	mg/kg dry	1	"	"	"	"	
1,3-Dichloropropane	<0.22	0.22	0.017	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.22	0.22	0.018	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-6_0-2 (1505280-11) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
2,2-Dichloropropane	<0.22	0.22	0.058	mg/kg dry	1	B5L0234	12/02/15	12/02/15	EPA 8260B	
2-Butanone	<1.1	1.1	0.11	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.22	0.22	0.022	mg/kg dry	1	"	"	"	"	
4-Chlorotoluene	<0.22	0.22	0.025	mg/kg dry	1	"	"	"	"	
Acetone	<1.1	1.1	0.13	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.22	0.22	0.028	mg/kg dry	1	"	"	"	"	
Benzene	<0.22	0.22	0.017	mg/kg dry	1	"	"	"	"	
Bromobenzene	<0.22	0.22	0.022	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.22	0.22	0.026	mg/kg dry	1	"	"	"	"	
Bromodichloromethane	<0.22	0.22	0.021	mg/kg dry	1	"	"	"	"	
Bromoform	<0.22	0.22	0.040	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.22	0.22	0.034	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.22	0.22	0.028	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.22	0.22	0.016	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.22	0.22	0.034	mg/kg dry	1	"	"	"	"	
Chloroform	<0.22	0.22	0.035	mg/kg dry	1	"	"	"	"	
Chloromethane	<0.22	0.22	0.030	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.22	0.22	0.013	mg/kg dry	1	"	"	"	"	
cis-1,3-Dichloropropene	<0.22	0.22	0.028	mg/kg dry	1	"	"	"	"	
Dibromochloromethane	<0.22	0.22	0.028	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.22	0.22	0.028	mg/kg dry	1	"	"	"	"	
Dichlorodifluoromethane	<0.22	0.22	0.042	mg/kg dry	1	"	"	"	"	
Dichlorofluoromethane	<0.22	0.22	0.011	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.22	0.22	0.027	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.22	0.22	0.024	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.56	0.56	0.089	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.22	0.22	0.034	mg/kg dry	1	"	"	"	"	
m,p-Xylene	<0.45	0.45	0.054	mg/kg dry	1	"	"	"	"	
Methyl isobutyl ketone	<0.22	0.22	0.048	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.22	0.22	0.011	mg/kg dry	1	"	"	"	"	
Methylene chloride	<0.56	0.56	0.067	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.56	0.56	0.054	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.22	0.22	0.018	mg/kg dry	1	"	"	"	"	
n-Propylbenzene	<0.22	0.22	0.011	mg/kg dry	1	"	"	"	"	
o-Xylene	<0.22	0.22	0.019	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.22	0.22	0.012	mg/kg dry	1	"	"	"	"	
sec-Butylbenzene	<0.22	0.22	0.025	mg/kg dry	1	"	"	"	"	
Styrene	<0.22	0.22	0.018	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.22	0.22	0.029	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-6_0-2 (1505280-11) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
Tetrachloroethene	<0.22	0.22	0.043	mg/kg dry	1	B5L0234	12/02/15	12/02/15	EPA 8260B	
Tetrahydrofuran	<1.1	1.1	0.12	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.22	0.22	0.0076	mg/kg dry	1	"	"	"	"	
trans-1,2-Dichloroethene	<0.22	0.22	0.020	mg/kg dry	1	"	"	"	"	
trans-1,3-Dichloropropene	<0.22	0.22	0.022	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.22	0.22	0.020	mg/kg dry	1	"	"	"	"	
Trichlorofluoromethane	<0.22	0.22	0.033	mg/kg dry	1	"	"	"	"	
Vinyl chloride	<0.22	0.22	0.024	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	87.0			80-124 %		"	"	"	"	
Surrogate: Dibromofluoromethane	96.3			77.1-123 %		"	"	"	"	
Surrogate: Toluene-d8	94.7			78.1-125 %		"	"	"	"	

B-6_6-8 (1505280-12) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
1,1,1,2-Tetrachloroethane	<0.25	0.25	0.025	mg/kg dry	1	B5L0234	12/02/15	12/02/15	EPA 8260B	
1,1,1,1-Trichloroethane	<0.25	0.25	0.029	mg/kg dry	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<0.25	0.25	0.020	mg/kg dry	1	"	"	"	"	
1,1,2-Trichloroethane	<0.25	0.25	0.018	mg/kg dry	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<0.25	0.25	0.025	mg/kg dry	1	"	"	"	"	T5
1,1-Dichloroethane	<0.25	0.25	0.012	mg/kg dry	1	"	"	"	"	
1,1-Dichloroethene	<0.25	0.25	0.016	mg/kg dry	1	"	"	"	"	
1,1-Dichloropropene	<0.25	0.25	0.019	mg/kg dry	1	"	"	"	"	
1,2,3-Trichlorobenzene	<0.63	0.63	0.12	mg/kg dry	1	"	"	"	"	
1,2,3-Trichloropropane	<0.25	0.25	0.038	mg/kg dry	1	"	"	"	"	
1,2,4-Trichlorobenzene	<0.63	0.63	0.090	mg/kg dry	1	"	"	"	"	
1,2,4-Trimethylbenzene	<0.25	0.25	0.023	mg/kg dry	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<0.63	0.63	0.058	mg/kg dry	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<0.25	0.25	0.030	mg/kg dry	1	"	"	"	"	
1,2-Dichlorobenzene	<0.25	0.25	0.016	mg/kg dry	1	"	"	"	"	
1,2-Dichloroethane	<0.25	0.25	0.028	mg/kg dry	1	"	"	"	"	
1,2-Dichloropropane	<0.25	0.25	0.027	mg/kg dry	1	"	"	"	"	
1,3,5-Trimethylbenzene	<0.25	0.25	0.032	mg/kg dry	1	"	"	"	"	
1,3-Dichlorobenzene	<0.25	0.25	0.011	mg/kg dry	1	"	"	"	"	
1,3-Dichloropropane	<0.25	0.25	0.019	mg/kg dry	1	"	"	"	"	
1,4-Dichlorobenzene	<0.25	0.25	0.020	mg/kg dry	1	"	"	"	"	
2,2-Dichloropropane	<0.25	0.25	0.066	mg/kg dry	1	"	"	"	"	
2-Butanone	<1.3	1.3	0.12	mg/kg dry	1	"	"	"	"	
2-Chlorotoluene	<0.25	0.25	0.025	mg/kg dry	1	"	"	"	"	
4-Chlorotoluene	<0.25	0.25	0.028	mg/kg dry	1	"	"	"	"	
Acetone	<1.3	1.3	0.15	mg/kg dry	1	"	"	"	"	
Allyl chloride	<0.25	0.25	0.032	mg/kg dry	1	"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-6_6-8 (1505280-12) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
Benzene	<0.25	0.25	0.019	mg/kg dry	1	B5L0234	12/02/15	12/02/15	EPA 8260B	
Bromobenzene	<0.25	0.25	0.025	mg/kg dry	1	"	"	"	"	
Bromochloromethane	<0.25	0.25	0.029	mg/kg dry	1	"	"	"	"	
Bromodichloromethane	<0.25	0.25	0.024	mg/kg dry	1	"	"	"	"	
Bromoform	<0.25	0.25	0.046	mg/kg dry	1	"	"	"	"	
Bromomethane	<0.25	0.25	0.038	mg/kg dry	1	"	"	"	"	
Carbon tetrachloride	<0.25	0.25	0.032	mg/kg dry	1	"	"	"	"	
Chlorobenzene	<0.25	0.25	0.018	mg/kg dry	1	"	"	"	"	
Chloroethane	<0.25	0.25	0.038	mg/kg dry	1	"	"	"	"	
Chloroform	<0.25	0.25	0.039	mg/kg dry	1	"	"	"	"	
Chloromethane	<0.25	0.25	0.034	mg/kg dry	1	"	"	"	"	
cis-1,2-Dichloroethene	<0.25	0.25	0.015	mg/kg dry	1	"	"	"	"	
cis-1,3-Dichloropropene	<0.25	0.25	0.032	mg/kg dry	1	"	"	"	"	
Dibromochloromethane	<0.25	0.25	0.032	mg/kg dry	1	"	"	"	"	
Dibromomethane	<0.25	0.25	0.032	mg/kg dry	1	"	"	"	"	
Dichlorodifluoromethane	<0.25	0.25	0.047	mg/kg dry	1	"	"	"	"	
Dichlorofluoromethane	<0.25	0.25	0.013	mg/kg dry	1	"	"	"	"	T5
Ethyl ether	<0.25	0.25	0.030	mg/kg dry	1	"	"	"	"	
Ethylbenzene	<0.25	0.25	0.027	mg/kg dry	1	"	"	"	"	
Hexachlorobutadiene	<0.63	0.63	0.10	mg/kg dry	1	"	"	"	"	
Isopropylbenzene	<0.25	0.25	0.038	mg/kg dry	1	"	"	"	"	
m,p-Xylene	<0.51	0.51	0.061	mg/kg dry	1	"	"	"	"	
Methyl isobutyl ketone	<0.25	0.25	0.054	mg/kg dry	1	"	"	"	"	
Methyl tert-butyl ether	<0.25	0.25	0.012	mg/kg dry	1	"	"	"	"	
Methylene chloride	<0.63	0.63	0.076	mg/kg dry	1	"	"	"	"	
Naphthalene	<0.63	0.63	0.061	mg/kg dry	1	"	"	"	"	
n-Butylbenzene	<0.25	0.25	0.020	mg/kg dry	1	"	"	"	"	
n-Propylbenzene	<0.25	0.25	0.013	mg/kg dry	1	"	"	"	"	
o-Xylene	<0.25	0.25	0.022	mg/kg dry	1	"	"	"	"	
p-Isopropyltoluene	<0.25	0.25	0.014	mg/kg dry	1	"	"	"	"	
sec-Butylbenzene	<0.25	0.25	0.028	mg/kg dry	1	"	"	"	"	
Styrene	<0.25	0.25	0.020	mg/kg dry	1	"	"	"	"	
tert-Butylbenzene	<0.25	0.25	0.033	mg/kg dry	1	"	"	"	"	
Tetrachloroethene	<0.25	0.25	0.048	mg/kg dry	1	"	"	"	"	
Tetrahydrofuran	<1.3	1.3	0.14	mg/kg dry	1	"	"	"	"	T5
Toluene	<0.25	0.25	0.0086	mg/kg dry	1	"	"	"	"	
trans-1,2-Dichloroethene	<0.25	0.25	0.023	mg/kg dry	1	"	"	"	"	
trans-1,3-Dichloropropene	<0.25	0.25	0.025	mg/kg dry	1	"	"	"	"	
Trichloroethene	<0.25	0.25	0.023	mg/kg dry	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-6_6-8 (1505280-12) Soil Sampled: 11/24/15 13:30 Received: 11/25/15 9:30										
Trichlorofluoromethane	<0.25	0.25	0.037	mg/kg dry	1	B5L0234	12/02/15	12/02/15	EPA 8260B	
Vinyl chloride	<0.25	0.25	0.027	mg/kg dry	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	88.9			80-124 %		"	"	"	"	
Surrogate: Dibromofluoromethane	98.7			77.1-123 %		"	"	"	"	
Surrogate: Toluene-d8	96.3			78.1-125 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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8015D DRO - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0301 - Sonication (Wisc DRO)											
Blank (B5L0301-BLK1)						Prepared & Analyzed: 12/03/15					
Diesel Range Organics	< 8.0	8.0	1.7	mg/kg wet							
Surrogate: Triacontane (C-30)	17.2			mg/kg wet	16.0		108	70-130			
LCS (B5L0301-BS1)						Prepared & Analyzed: 12/03/15					
Diesel Range Organics	66.3	8.0	1.7	mg/kg wet	64.0		104	70-130			
Surrogate: Triacontane (C-30)	17.6			mg/kg wet	16.0		110	70-130			
LCS Dup (B5L0301-BSD1)						Prepared: 12/03/15			Analyzed: 12/04/15		
Diesel Range Organics	62.7	8.0	1.7	mg/kg wet	64.0		98.0	70-130	5.60	20	
Surrogate: Triacontane (C-30)	17.1			mg/kg wet	16.0		107	70-130			
Matrix Spike (B5L0301-MS1)						Source: 1505280-10			Prepared: 12/03/15		
Diesel Range Organics	63.6	8.8	1.9	mg/kg dry	70.4	<8.8	90.3	70-130			
Surrogate: Triacontane (C-30)	17.4			mg/kg dry	17.6		98.7	70-130			
Matrix Spike Dup (B5L0301-MSD1)						Source: 1505280-10			Prepared: 12/03/15		
Diesel Range Organics	72.2	8.8	1.9	mg/kg dry	70.4	<8.8	102	70-130	12.7	30	
Surrogate: Triacontane (C-30)	19.2			mg/kg dry	17.6		109	70-130			

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

8015D GRO - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0123 - EPA 5035 Soil (Purge and Trap)											
Blank (B5L0123-BLK1)						Prepared & Analyzed: 12/01/15					
Gasoline range organics	< 5.0	5.0	0.54	mg/kg wet							
Surrogate: 4-Fluorochlorobenzene	19.7			ug/L	20.0		98.5	80-150			
LCS (B5L0123-BS1)						Prepared & Analyzed: 12/01/15					
Gasoline range organics	1000			ug/L	1000		100	80-120			
Surrogate: 4-Fluorochlorobenzene	21.4			ug/L	20.0		107	80-150			
LCS Dup (B5L0123-BSD1)						Prepared: 12/01/15 Analyzed: 12/02/15					
Gasoline range organics	1060			ug/L	1000		106	80-120	5.42	20	
Surrogate: 4-Fluorochlorobenzene	22.1			ug/L	20.0		110	80-150			
Duplicate (B5L0123-DUP1)						Source: 1505280-05 Prepared: 12/01/15 Analyzed: 12/02/15					
Gasoline range organics	2.11	6.5	0.70	mg/kg dry		<6.5			NA	20	
Surrogate: 4-Fluorochlorobenzene	19.2			ug/L	20.0		96.0	80-150			
Matrix Spike (B5L0123-MS1)						Source: 1505280-02 Prepared: 12/01/15 Analyzed: 12/02/15					
Gasoline range organics	986			ug/L	1000	42.6	94.3	70-130			
Surrogate: 4-Fluorochlorobenzene	21.4			ug/L	20.0		107	80-150			
Matrix Spike Dup (B5L0123-MSD1)						Source: 1505280-02 Prepared: 12/01/15 Analyzed: 12/02/15					
Gasoline range organics	1000			ug/L	1000	42.6	95.9	70-130	1.59	20	
Surrogate: 4-Fluorochlorobenzene	21.5			ug/L	20.0		107	80-150			

Barr Engineering Co.	Project: 34511010	Work Order #: 1505280
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Date Reported: 12/10/15
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	

TOTAL METALS ANALYSIS - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0124 - EPA 3050B

Blank (B5L0124-BLK1)

Prepared: 12/01/15 Analyzed: 12/09/15

Arsenic	< 0.50	0.50	0.10	mg/kg wet							
Barium	< 1.0	1.0	0.066	mg/kg wet							
Cadmium	< 0.25	0.25	0.0087	mg/kg wet							
Chromium	< 0.50	0.50	0.036	mg/kg wet							
Lead	< 1.0	1.0	0.062	mg/kg wet							
Mercury	< 0.50	0.50	0.23	mg/kg wet							
Selenium	< 1.0	1.0	0.29	mg/kg wet							
Silver	< 0.25	0.25	0.012	mg/kg wet							

LCS (B5L0124-BS1)

Prepared: 12/01/15 Analyzed: 12/09/15

Arsenic	43.6	0.50	0.10	mg/kg wet	39.9		109	80-120			
Barium	43.1	1.0	0.066	mg/kg wet	39.9		108	80-120			
Cadmium	45.2	0.25	0.0087	mg/kg wet	39.9		113	80-120			
Chromium	44.4	0.50	0.036	mg/kg wet	39.9		111	80-120			
Lead	43.4	1.0	0.062	mg/kg wet	39.9		109	80-120			
Mercury	12.3	0.50	0.23	mg/kg wet	12.5		98.4	80-120			
Selenium	43.4	1.0	0.29	mg/kg wet	39.9		109	80-120			
Silver	4.28	0.25	0.012	mg/kg wet	3.99		107	80-120			

LCS Dup (B5L0124-BSD1)

Prepared: 12/01/15 Analyzed: 12/09/15

Arsenic	43.1	0.50	0.10	mg/kg wet	39.9		108	80-120	1.27	20	
Barium	41.8	1.0	0.066	mg/kg wet	39.9		105	80-120	3.06	20	
Cadmium	45.7	0.25	0.0087	mg/kg wet	39.9		115	80-120	1.21	20	
Chromium	44.8	0.50	0.036	mg/kg wet	39.9		112	80-120	1.12	20	
Lead	43.4	1.0	0.062	mg/kg wet	39.9		109	80-120	0.00	20	
Mercury	11.8	0.50	0.23	mg/kg wet	12.5		94.0	80-120	4.57	20	
Selenium	44.2	1.0	0.29	mg/kg wet	39.9		111	80-120	1.94	20	
Silver	4.33	0.25	0.012	mg/kg wet	3.99		109	80-120	1.16	20	

Matrix Spike (B5L0124-MS1)

Source: 1505280-01

Prepared: 12/01/15 Analyzed: 12/09/15

Arsenic	58.0	0.68	0.14	mg/kg dry	53.5	4.07	101	75-125			
Barium	199	1.4	0.089	mg/kg dry	53.5	148	95.0	75-125			
Cadmium	53.7	0.34	0.012	mg/kg dry	53.5	<0.34	100	75-125			
Chromium	71.8	0.68	0.049	mg/kg dry	53.5	15.4	105	75-125			
Lead	59.0	1.4	0.084	mg/kg dry	53.5	7.99	95.2	75-125			
Mercury	15.0	0.68	0.31	mg/kg dry	16.8	<0.68	89.2	75-125			
Selenium	53.0	1.4	0.39	mg/kg dry	53.5	<1.4	99.0	75-125			
Silver	5.23	0.34	0.016	mg/kg dry	5.35	<0.34	97.7	75-125			

Matrix Spike Dup (B5L0124-MSD1)

Source: 1505280-01

Prepared: 12/01/15 Analyzed: 12/09/15

Arsenic	53.3	0.68	0.14	mg/kg dry	53.3	4.07	92.4	75-125	8.39	20	
Barium	228	1.4	0.089	mg/kg dry	53.3	148	149	75-125	13.5	20	M1

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

TOTAL METALS ANALYSIS - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0124 - EPA 3050B											
Matrix Spike Dup (B5L0124-MSD1)											
	Source: 1505280-01					Prepared: 12/01/15 Analyzed: 12/09/15					
Cadmium	50.5	0.34	0.012	mg/kg dry	53.3	<0.34	94.6	75-125	6.12	20	
Chromium	70.2	0.68	0.049	mg/kg dry	53.3	15.4	103	75-125	2.22	20	
Lead	57.8	1.4	0.084	mg/kg dry	53.3	7.99	93.4	75-125	1.94	20	
Mercury	15.1	0.68	0.31	mg/kg dry	16.7	<0.68	90.4	75-125	0.999	20	
Selenium	50.0	1.4	0.39	mg/kg dry	53.3	<1.4	93.7	75-125	5.80	20	
Silver	4.90	0.34	0.016	mg/kg dry	5.33	<0.34	91.9	75-125	6.55	20	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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PERCENT SOLIDS - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0306 - General Preparation											
Duplicate (B5L0306-DUP1)	Source: 1505280-07					Prepared & Analyzed: 12/03/15					
% Solids	95.0			%		94.0			1.06	20	
Duplicate (B5L0306-DUP2)	Source: 1505293-03					Prepared & Analyzed: 12/03/15					
% Solids	86.0			%		86.0			0.00	20	
Duplicate (B5L0306-DUP3)	Source: 1505328-01					Prepared & Analyzed: 12/03/15					
% Solids	79.0			%		80.0			1.26	20	

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5K3002 - EPA 3545 ASE Extraction

Blank (B5K3002-BLK1)

Prepared & Analyzed: 11/30/15

1,2,4-Trichlorobenzene	< 0.33	0.33	0.075	mg/kg wet
1,2-Dichlorobenzene	< 0.33	0.33	0.067	mg/kg wet
1,2-Diphenylhydrazine as Azobenzene	< 0.33	0.33	0.058	mg/kg wet
1,3-Dichlorobenzene	< 0.33	0.33	0.069	mg/kg wet
1,4-Dichlorobenzene	< 0.33	0.33	0.068	mg/kg wet
2,3,4,6-Tetrachlorophenol	< 0.67	0.67	0.19	mg/kg wet
2,4,5-Trichlorophenol	< 0.67	0.67	0.071	mg/kg wet
2,4,6-Trichlorophenol	< 0.67	0.67	0.16	mg/kg wet
2,4-Dichlorophenol	< 0.67	0.67	0.15	mg/kg wet
2,4-Dimethylphenol	< 0.67	0.67	0.13	mg/kg wet
2,4-Dinitrophenol	< 0.67	0.67	0.071	mg/kg wet
2,4-Dinitrotoluene	< 0.33	0.33	0.068	mg/kg wet
2,6-Dichlorophenol	< 0.67	0.67	0.13	mg/kg wet
2,6-Dinitrotoluene	< 0.33	0.33	0.077	mg/kg wet
2-Chloronaphthalene	< 0.33	0.33	0.068	mg/kg wet
2-Chlorophenol	< 0.67	0.67	0.15	mg/kg wet
2-Methylnaphthalene	< 0.33	0.33	0.080	mg/kg wet
2-Methylphenol	< 0.67	0.67	0.082	mg/kg wet
2-Nitroaniline	< 0.33	0.33	0.069	mg/kg wet
2-Nitrophenol	< 0.67	0.67	0.18	mg/kg wet
3&4-Methylphenol	< 0.67	0.67	0.082	mg/kg wet
3,3'-Dichlorobenzidine	< 1.6	1.6	0.45	mg/kg wet
3-Nitroaniline	< 0.33	0.33	0.072	mg/kg wet
4,6-Dinitro-2-methylphenol	< 0.67	0.67	0.11	mg/kg wet
4-Bromophenyl phenyl ether	< 0.33	0.33	0.068	mg/kg wet
4-Chloro-3-methylphenol	< 0.67	0.67	0.14	mg/kg wet
4-Chloroaniline	< 0.67	0.67	0.067	mg/kg wet
4-Chlorophenyl phenyl ether	< 0.33	0.33	0.068	mg/kg wet
4-Nitroaniline	< 0.33	0.33	0.083	mg/kg wet
4-Nitrophenol	< 0.67	0.67	0.17	mg/kg wet
Acenaphthene	< 0.33	0.33	0.063	mg/kg wet
Acenaphthylene	< 0.33	0.33	0.071	mg/kg wet
Aniline	< 0.67	0.67	0.066	mg/kg wet
Anthracene	< 0.33	0.33	0.069	mg/kg wet
Benzidine	< 2.5	2.5	0.44	mg/kg wet
Benzo(a)anthracene	< 0.33	0.33	0.065	mg/kg wet
Benzo(a)pyrene	< 0.33	0.33	0.070	mg/kg wet
Benzo(b)fluoranthene	< 0.33	0.33	0.059	mg/kg wet
Benzo(g,h,i)perylene	< 0.33	0.33	0.071	mg/kg wet

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5K3002 - EPA 3545 ASE Extraction

Blank (B5K3002-BLK1)

Prepared & Analyzed: 11/30/15

Benzo(k)fluoranthene	< 0.33	0.33	0.070	mg/kg wet							
Benzoic acid	< 0.33	0.33	0.064	mg/kg wet							
Benzyl alcohol	< 0.67	0.67	0.15	mg/kg wet							
Bis(2-chloroethoxy)methane	< 0.33	0.33	0.077	mg/kg wet							
Bis(2-chloroethyl)ether	< 0.33	0.33	0.069	mg/kg wet							
Bis(2-chloroisopropyl)ether	< 0.33	0.33	0.078	mg/kg wet							
Bis(2-ethylhexyl)phthalate	< 0.33	0.33	0.081	mg/kg wet							
Butyl benzyl phthalate	< 0.33	0.33	0.083	mg/kg wet							
Carbazole	< 0.33	0.33	0.076	mg/kg wet							
Chrysene	< 0.33	0.33	0.064	mg/kg wet							
Dibenz(a,h)anthracene	< 0.33	0.33	0.082	mg/kg wet							
Dibenzofuran	< 0.33	0.33	0.068	mg/kg wet							
Diethyl phthalate	< 0.33	0.33	0.063	mg/kg wet							
Dimethyl phthalate	< 0.33	0.33	0.069	mg/kg wet							
Di-n-butyl phthalate	< 0.33	0.33	0.079	mg/kg wet							
Di-n-octyl phthalate	< 0.33	0.33	0.10	mg/kg wet							
Fluoranthene	< 0.33	0.33	0.068	mg/kg wet							
Fluorene	< 0.33	0.33	0.065	mg/kg wet							
Hexachlorobenzene	< 0.33	0.33	0.062	mg/kg wet							
Hexachlorobutadiene	< 0.33	0.33	0.077	mg/kg wet							
Hexachlorocyclopentadiene	< 0.33	0.33	0.069	mg/kg wet							
Hexachloroethane	< 0.33	0.33	0.082	mg/kg wet							
Indeno (1,2,3-cd) pyrene	< 0.33	0.33	0.072	mg/kg wet							
Isophorone	< 0.33	0.33	0.076	mg/kg wet							
Naphthalene	< 0.33	0.33	0.071	mg/kg wet							
Nitrobenzene	< 0.33	0.33	0.080	mg/kg wet							
N-Nitrosodimethylamine	< 0.33	0.33	0.070	mg/kg wet							
N-Nitrosodi-n-propylamine	< 0.33	0.33	0.073	mg/kg wet							
N-Nitrosodiphenylamine	< 0.33	0.33	0.067	mg/kg wet							
Pentachlorophenol	< 0.67	0.67	0.19	mg/kg wet							
Phenanthrene	< 0.33	0.33	0.066	mg/kg wet							
Phenol	< 0.67	0.67	0.14	mg/kg wet							
Pyrene	< 0.33	0.33	0.059	mg/kg wet							
Surrogate: 2,4,6-Tribromophenol	4.91			mg/kg wet	6.67		73.7	53-107			
Surrogate: 2-Fluorobiphenyl	4.92			mg/kg wet	6.67		73.7	53.9-97.9			
Surrogate: 2-Fluorophenol	4.60			mg/kg wet	6.67		69.0	42.5-94.9			
Surrogate: Nitrobenzene-d5	4.52			mg/kg wet	6.67		67.7	48.9-100			
Surrogate: Phenol-d6	4.82			mg/kg wet	6.67		72.3	50.4-99.6			
Surrogate: Terphenyl-d14	4.11			mg/kg wet	6.67		61.6	51-99.6			

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5K3002 - EPA 3545 ASE Extraction

LCS (B5K3002-BS1)

Prepared & Analyzed: 11/30/15

1,2,4-Trichlorobenzene	2.39	0.33	0.075	mg/kg wet	3.33		71.7	50-100			
1,4-Dichlorobenzene	2.24	0.33	0.068	mg/kg wet	3.33		67.2	40-80			
2,4-Dinitrotoluene	2.69	0.33	0.068	mg/kg wet	3.33		80.6	50-90			
2-Chlorophenol	2.39	0.67	0.15	mg/kg wet	3.33		71.8	50-85			
4-Chloro-3-methylphenol	2.67	0.67	0.14	mg/kg wet	3.33		80.1	55-90			
4-Nitrophenol	3.07	0.67	0.17	mg/kg wet	3.33		92.2	45-100			
Anthracene	2.73	0.33	0.069	mg/kg wet	3.33		81.8	55-95			
Benzo(a)anthracene	2.79	0.33	0.065	mg/kg wet	3.33		83.8	55-100			
Benzo(a)pyrene	2.60	0.33	0.070	mg/kg wet	3.33		78.1	55-100			
Chrysene	2.89	0.33	0.064	mg/kg wet	3.33		86.7	55-100			
Fluoranthene	2.77	0.33	0.068	mg/kg wet	3.33		83.0	55-95			
Fluorene	2.68	0.33	0.065	mg/kg wet	3.33		80.3	55-95			
N-Nitrosodi-n-propylamine	2.51	0.33	0.073	mg/kg wet	3.33		75.4	50-90			
Pentachlorophenol	2.51	0.67	0.19	mg/kg wet	3.33		75.2	35-95			
Phenanthrene	2.71	0.33	0.066	mg/kg wet	3.33		81.4	55-95			
Phenol	2.52	0.67	0.14	mg/kg wet	3.33		75.5	50-85			
Surrogate: 2,4,6-Tribromophenol	5.60			mg/kg wet	6.67		84.0	53-107			
Surrogate: 2-Fluorobiphenyl	5.26			mg/kg wet	6.67		78.8	53.9-97.9			
Surrogate: 2-Fluorophenol	4.89			mg/kg wet	6.67		73.4	42.5-94.9			
Surrogate: Nitrobenzene-d5	4.82			mg/kg wet	6.67		72.3	48.9-100			
Surrogate: Phenol-d6	5.11			mg/kg wet	6.67		76.7	50.4-99.6			
Surrogate: Terphenyl-d14	3.85			mg/kg wet	6.67		57.8	51-99.6			

Matrix Spike (B5K3002-MS1)

Source: 1505201-01

Prepared & Analyzed: 11/30/15

1,2,4-Trichlorobenzene	2.77	0.37	0.083	mg/kg dry	3.71	<0.37	74.5	35-100			
1,4-Dichlorobenzene	2.58	0.37	0.076	mg/kg dry	3.71	<0.37	69.5	30-85			
2,4-Dinitrotoluene	2.96	0.37	0.076	mg/kg dry	3.71	<0.37	79.7	45-95			
2-Chlorophenol	2.71	0.74	0.17	mg/kg dry	3.71	<0.74	73.1	35-100			
4-Chloro-3-methylphenol	2.91	0.74	0.16	mg/kg dry	3.71	<0.74	78.4	35-100			
4-Nitrophenol	3.11	0.74	0.19	mg/kg dry	3.71	<0.74	83.7	40-100			
Anthracene	3.11	0.37	0.077	mg/kg dry	3.71	<0.37	83.8	55-100			
Benzo(a)anthracene	2.98	0.37	0.072	mg/kg dry	3.71	<0.37	80.4	50-100			
Benzo(a)pyrene	2.87	0.37	0.078	mg/kg dry	3.71	<0.37	77.2	50-100			
Chrysene	3.29	0.37	0.071	mg/kg dry	3.71	<0.37	88.7	50-100			
Fluoranthene	2.90	0.37	0.076	mg/kg dry	3.71	<0.37	78.2	50-100			
Fluorene	2.99	0.37	0.072	mg/kg dry	3.71	<0.37	80.6	50-100			
N-Nitrosodi-n-propylamine	2.89	0.37	0.081	mg/kg dry	3.71	<0.37	77.7	35-100			
Pentachlorophenol	3.10	0.74	0.21	mg/kg dry	3.71	<0.74	83.5	30-100			
Phenanthrene	3.14	0.37	0.073	mg/kg dry	3.71	<0.37	84.6	55-100			
Phenol	2.82	0.74	0.16	mg/kg dry	3.71	<0.74	76.0	35-100			

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5K3002 - EPA 3545 ASE Extraction

Matrix Spike (B5K3002-MS1)

Source: 1505201-01

Prepared & Analyzed: 11/30/15

Surrogate: 2,4,6-Tribromophenol	5.92			mg/kg dry	7.42		79.8	53-107			
Surrogate: 2-Fluorobiphenyl	5.33			mg/kg dry	7.42		71.8	53.9-97.9			
Surrogate: 2-Fluorophenol	5.38			mg/kg dry	7.42		72.5	42.5-94.9			
Surrogate: Nitrobenzene-d5	5.31			mg/kg dry	7.42		71.5	48.9-100			
Surrogate: Phenol-d6	5.71			mg/kg dry	7.42		77.0	50.4-99.6			
Surrogate: Terphenyl-d14	4.13			mg/kg dry	7.42		55.6	51-99.6			

Matrix Spike Dup (B5K3002-MSD1)

Source: 1505201-01

Prepared & Analyzed: 11/30/15

1,2,4-Trichlorobenzene	2.70	0.37	0.083	mg/kg dry	3.70	<0.37	72.9	35-100	2.50	20	
1,4-Dichlorobenzene	2.53	0.37	0.076	mg/kg dry	3.70	<0.37	68.3	30-85	2.02	20	
2,4-Dinitrotoluene	2.89	0.37	0.076	mg/kg dry	3.70	<0.37	78.2	45-95	2.19	20	
2-Chlorophenol	2.65	0.74	0.17	mg/kg dry	3.70	<0.74	71.6	35-100	2.39	20	
4-Chloro-3-methylphenol	2.83	0.74	0.16	mg/kg dry	3.70	<0.74	76.5	35-100	2.78	20	
4-Nitrophenol	3.06	0.74	0.19	mg/kg dry	3.70	<0.74	82.8	40-100	1.48	20	
Anthracene	3.07	0.37	0.077	mg/kg dry	3.70	<0.37	83.0	55-100	1.31	20	
Benzo(a)anthracene	2.90	0.37	0.072	mg/kg dry	3.70	<0.37	78.3	50-100	2.97	20	
Benzo(a)pyrene	2.81	0.37	0.078	mg/kg dry	3.70	<0.37	75.9	50-100	2.03	20	
Chrysene	3.21	0.37	0.071	mg/kg dry	3.70	<0.37	86.9	50-100	2.40	20	
Fluoranthene	2.85	0.37	0.076	mg/kg dry	3.70	<0.37	77.1	50-100	1.77	20	
Fluorene	2.92	0.37	0.072	mg/kg dry	3.70	<0.37	78.8	50-100	2.57	20	
N-Nitrosodi-n-propylamine	2.83	0.37	0.081	mg/kg dry	3.70	<0.37	76.4	35-100	2.05	20	
Pentachlorophenol	3.00	0.74	0.21	mg/kg dry	3.70	<0.74	81.2	30-100	3.16	20	
Phenanthrene	3.07	0.37	0.073	mg/kg dry	3.70	<0.37	83.1	55-100	2.10	20	
Phenol	2.75	0.74	0.16	mg/kg dry	3.70	<0.74	74.2	35-100	2.76	20	
Surrogate: 2,4,6-Tribromophenol	5.79			mg/kg dry	7.40		78.3	53-107			
Surrogate: 2-Fluorobiphenyl	5.25			mg/kg dry	7.40		71.0	53.9-97.9			
Surrogate: 2-Fluorophenol	5.31			mg/kg dry	7.40		71.8	42.5-94.9			
Surrogate: Nitrobenzene-d5	5.14			mg/kg dry	7.40		69.4	48.9-100			
Surrogate: Phenol-d6	5.60			mg/kg dry	7.40		75.7	50.4-99.6			
Surrogate: Terphenyl-d14	4.00			mg/kg dry	7.40		54.0	51-99.6			

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0233 - EPA 5035 Soil (Purge and Trap)

Blank (B5L0233-BLK1)

Prepared & Analyzed: 12/01/15

1,1,1,2-Tetrachloroethane	< 0.20	0.20	0.020	mg/kg wet
1,1,1-Trichloroethane	< 0.20	0.20	0.023	mg/kg wet
1,1,2,2-Tetrachloroethane	< 0.20	0.20	0.016	mg/kg wet
1,1,2-Trichloroethane	< 0.20	0.20	0.014	mg/kg wet
1,1,2-Trichlorotrifluoroethane	< 0.20	0.20	0.020	mg/kg wet
1,1-Dichloroethane	< 0.20	0.20	0.0097	mg/kg wet
1,1-Dichloroethene	< 0.20	0.20	0.013	mg/kg wet
1,1-Dichloropropene	< 0.20	0.20	0.015	mg/kg wet
1,2,3-Trichlorobenzene	< 0.50	0.50	0.097	mg/kg wet
1,2,3-Trichloropropane	< 0.20	0.20	0.030	mg/kg wet
1,2,4-Trichlorobenzene	< 0.50	0.50	0.071	mg/kg wet
1,2,4-Trimethylbenzene	< 0.20	0.20	0.018	mg/kg wet
1,2-Dibromo-3-chloropropane	< 0.50	0.50	0.046	mg/kg wet
1,2-Dibromoethane (EDB)	< 0.20	0.20	0.024	mg/kg wet
1,2-Dichlorobenzene	< 0.20	0.20	0.013	mg/kg wet
1,2-Dichloroethane	< 0.20	0.20	0.022	mg/kg wet
1,2-Dichloropropane	< 0.20	0.20	0.021	mg/kg wet
1,3,5-Trimethylbenzene	< 0.20	0.20	0.025	mg/kg wet
1,3-Dichlorobenzene	< 0.20	0.20	0.0090	mg/kg wet
1,3-Dichloropropane	< 0.20	0.20	0.015	mg/kg wet
1,4-Dichlorobenzene	< 0.20	0.20	0.016	mg/kg wet
2,2-Dichloropropane	< 0.20	0.20	0.052	mg/kg wet
2-Butanone	< 1.0	1.0	0.094	mg/kg wet
2-Chlorotoluene	< 0.20	0.20	0.020	mg/kg wet
4-Chlorotoluene	< 0.20	0.20	0.022	mg/kg wet
Acetone	< 1.0	1.0	0.12	mg/kg wet
Allyl chloride	< 0.20	0.20	0.025	mg/kg wet
Benzene	< 0.20	0.20	0.015	mg/kg wet
Bromobenzene	< 0.20	0.20	0.020	mg/kg wet
Bromochloromethane	< 0.20	0.20	0.023	mg/kg wet
Bromodichloromethane	< 0.20	0.20	0.019	mg/kg wet
Bromoform	< 0.20	0.20	0.036	mg/kg wet
Bromomethane	< 0.20	0.20	0.030	mg/kg wet
Carbon tetrachloride	< 0.20	0.20	0.025	mg/kg wet
Chlorobenzene	< 0.20	0.20	0.014	mg/kg wet
Chloroethane	< 0.20	0.20	0.030	mg/kg wet
Chloroform	< 0.20	0.20	0.031	mg/kg wet
Chloromethane	< 0.20	0.20	0.027	mg/kg wet
cis-1,2-Dichloroethene	< 0.20	0.20	0.012	mg/kg wet

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0233 - EPA 5035 Soil (Purge and Trap)

Blank (B5L0233-BLK1)

Prepared & Analyzed: 12/01/15

cis-1,3-Dichloropropene	< 0.20	0.20	0.025	mg/kg wet							
Dibromochloromethane	< 0.20	0.20	0.025	mg/kg wet							
Dibromomethane	< 0.20	0.20	0.025	mg/kg wet							
Dichlorodifluoromethane	< 0.20	0.20	0.037	mg/kg wet							
Dichlorofluoromethane	< 0.20	0.20	0.010	mg/kg wet							
Ethyl ether	< 0.20	0.20	0.024	mg/kg wet							
Ethylbenzene	< 0.20	0.20	0.021	mg/kg wet							
Hexachlorobutadiene	< 0.50	0.50	0.079	mg/kg wet							
Isopropylbenzene	< 0.20	0.20	0.030	mg/kg wet							
m,p-Xylene	< 0.40	0.40	0.048	mg/kg wet							
Methyl isobutyl ketone	< 0.20	0.20	0.043	mg/kg wet							
Methyl tert-butyl ether	< 0.20	0.20	0.0097	mg/kg wet							
Methylene chloride	< 0.50	0.50	0.060	mg/kg wet							
Naphthalene	< 0.50	0.50	0.048	mg/kg wet							
n-Butylbenzene	< 0.20	0.20	0.016	mg/kg wet							
n-Propylbenzene	< 0.20	0.20	0.010	mg/kg wet							
o-Xylene	< 0.20	0.20	0.017	mg/kg wet							
p-Isopropyltoluene	< 0.20	0.20	0.011	mg/kg wet							
sec-Butylbenzene	< 0.20	0.20	0.022	mg/kg wet							
Styrene	< 0.20	0.20	0.016	mg/kg wet							
tert-Butylbenzene	< 0.20	0.20	0.026	mg/kg wet							
Tetrachloroethene	< 0.20	0.20	0.038	mg/kg wet							
Tetrahydrofuran	< 1.0	1.0	0.11	mg/kg wet							
Toluene	< 0.20	0.20	0.0068	mg/kg wet							
trans-1,2-Dichloroethene	< 0.20	0.20	0.018	mg/kg wet							
trans-1,3-Dichloropropene	< 0.20	0.20	0.020	mg/kg wet							
Trichloroethene	< 0.20	0.20	0.018	mg/kg wet							
Trichlorofluoromethane	< 0.20	0.20	0.029	mg/kg wet							
Vinyl chloride	< 0.20	0.20	0.021	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	49.7			ug/L	56.0		88.8	80-124			
Surrogate: Dibromofluoromethane	54.7			ug/L	56.0		97.7	77.1-123			
Surrogate: Toluene-d8	54.5			ug/L	56.0		97.3	78.1-125			

LCS (B5L0233-BS1)

Prepared & Analyzed: 12/01/15

1,1,2,2-Tetrachloroethane	50.7			ug/L	50.0		101	75-120			
1,1-Dichloroethane	48.7			ug/L	50.0		97.4	79.6-120			
1,1-Dichloroethene	49.2			ug/L	50.0		98.4	78.3-120			
1,3,5-Trimethylbenzene	47.8			ug/L	50.0		95.6	77-120			
1,4-Dichlorobenzene	46.0			ug/L	50.0		92.0	75-125			
2-Chlorotoluene	47.8			ug/L	50.0		95.6	75.9-120			

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0233 - EPA 5035 Soil (Purge and Trap)

LCS (B5L0233-BS1)

Prepared & Analyzed: 12/01/15

Benzene	49.6			ug/L	50.0		99.3	80-120			
Bromoform	51.6			ug/L	50.0		103	80-120			
Chlorobenzene	49.5			ug/L	50.0		99.1	80-120			
Chloroform	48.5			ug/L	50.0		97.0	80-120			
Ethylbenzene	49.6			ug/L	50.0		99.2	80-120			
n-Butylbenzene	48.1			ug/L	50.0		96.1	75-125			
n-Propylbenzene	48.0			ug/L	50.0		96.1	75-120			
Toluene	48.7			ug/L	50.0		97.5	80-120			
Trichloroethene	48.8			ug/L	50.0		97.6	80-120			
Vinyl chloride	46.4			ug/L	50.0		92.8	75-130			
Surrogate: 4-Bromofluorobenzene	51.5			ug/L	56.0		91.9	80-124			
Surrogate: Dibromofluoromethane	54.1			ug/L	56.0		96.7	77.1-123			
Surrogate: Toluene-d8	53.7			ug/L	56.0		95.8	78.1-125			

Matrix Spike (B5L0233-MS1)

Source: 1505280-01

Prepared & Analyzed: 12/01/15

1,1,2,2-Tetrachloroethane	49.7			ug/L	50.0	<	99.5	75-125			
1,1-Dichloroethane	49.9			ug/L	50.0	<	99.9	78.7-123			
1,1-Dichloroethene	49.5			ug/L	50.0	<	99.0	75.8-121			
1,3,5-Trimethylbenzene	48.0			ug/L	50.0	<	96.1	75-120			
1,4-Dichlorobenzene	45.9			ug/L	50.0	<	91.9	75-125			
2-Chlorotoluene	48.3			ug/L	50.0	<	96.7	75-120			
Benzene	50.0			ug/L	50.0	<	100	80-120			
Bromoform	50.6			ug/L	50.0	<	101	80-120			
Chlorobenzene	49.2			ug/L	50.0	<	98.3	80-120			
Chloroform	49.3			ug/L	50.0	<	98.6	80-120			
Ethylbenzene	49.5			ug/L	50.0	<	99.0	80-120			
n-Butylbenzene	47.5			ug/L	50.0	<	94.9	73.8-125			
n-Propylbenzene	48.8			ug/L	50.0	<	97.5	75-120			
Toluene	50.4			ug/L	50.0	<	101	80-120			
Trichloroethene	49.5			ug/L	50.0	<	99.1	80-120			
Vinyl chloride	46.3			ug/L	50.0	<	92.6	74.8-130			
Surrogate: 4-Bromofluorobenzene	51.5			ug/L	56.0		92.1	80-124			
Surrogate: Dibromofluoromethane	55.5			ug/L	56.0		99.1	77.1-123			
Surrogate: Toluene-d8	53.9			ug/L	56.0		96.3	78.1-125			

Matrix Spike Dup (B5L0233-MSD1)

Source: 1505280-01

Prepared & Analyzed: 12/01/15

1,1,2,2-Tetrachloroethane	50.8			ug/L	50.0	<	102	75-125	2.11	20	
1,1-Dichloroethane	50.2			ug/L	50.0	<	100	78.7-123	0.460	20	
1,1-Dichloroethene	48.8			ug/L	50.0	<	97.5	75.8-121	1.51	20	
1,3,5-Trimethylbenzene	49.0			ug/L	50.0	<	98.1	75-120	2.05	20	

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0233 - EPA 5035 Soil (Purge and Trap)

Matrix Spike Dup (B5L0233-MSD1)

Source: 1505280-01

Prepared & Analyzed: 12/01/15

1,4-Dichlorobenzene	46.0			ug/L	50.0	<	92.1	75-125	0.229	20	
2-Chlorotoluene	49.0			ug/L	50.0	<	98.0	75-120	1.38	20	
Benzene	49.7			ug/L	50.0	<	99.4	80-120	0.551	20	
Bromoform	49.6			ug/L	50.0	<	99.3	80-120	2.00	20	
Chlorobenzene	48.3			ug/L	50.0	<	96.6	80-120	1.74	20	
Chloroform	49.6			ug/L	50.0	<	99.2	80-120	0.598	20	
Ethylbenzene	49.0			ug/L	50.0	<	98.1	80-120	0.990	20	
n-Butylbenzene	49.1			ug/L	50.0	<	98.1	73.8-125	3.31	20	
n-Propylbenzene	49.6			ug/L	50.0	<	99.3	75-120	1.79	20	
Toluene	50.3			ug/L	50.0	<	101	80-120	0.284	20	
Trichloroethene	49.0			ug/L	50.0	<	98.0	80-120	1.11	20	
Vinyl chloride	44.9			ug/L	50.0	<	89.7	74.8-130	3.16	20	
Surrogate: 4-Bromofluorobenzene	52.1			ug/L	56.0		93.0	80-124			
Surrogate: Dibromofluoromethane	55.0			ug/L	56.0		98.2	77.1-123			
Surrogate: Toluene-d8	54.4			ug/L	56.0		97.2	78.1-125			

Batch B5L0234 - EPA 5035 Soil (Purge and Trap)

Blank (B5L0234-BLK1)

Prepared & Analyzed: 12/02/15

1,1,1,2-Tetrachloroethane	< 0.20	0.20	0.020	mg/kg wet
1,1,1,1-Trichloroethane	< 0.20	0.20	0.023	mg/kg wet
1,1,1,2,2-Tetrachloroethane	< 0.20	0.20	0.016	mg/kg wet
1,1,1,2-Trichloroethane	< 0.20	0.20	0.014	mg/kg wet
1,1,1,2-Trichlorotrifluoroethane	< 0.20	0.20	0.020	mg/kg wet
1,1-Dichloroethane	< 0.20	0.20	0.0097	mg/kg wet
1,1-Dichloroethene	< 0.20	0.20	0.013	mg/kg wet
1,1-Dichloropropene	< 0.20	0.20	0.015	mg/kg wet
1,2,3-Trichlorobenzene	< 0.50	0.50	0.097	mg/kg wet
1,2,3-Trichloropropane	< 0.20	0.20	0.030	mg/kg wet
1,2,4-Trichlorobenzene	< 0.50	0.50	0.071	mg/kg wet
1,2,4-Trimethylbenzene	< 0.20	0.20	0.018	mg/kg wet
1,2-Dibromo-3-chloropropane	< 0.50	0.50	0.046	mg/kg wet
1,2-Dibromoethane (EDB)	< 0.20	0.20	0.024	mg/kg wet
1,2-Dichlorobenzene	< 0.20	0.20	0.013	mg/kg wet
1,2-Dichloroethane	< 0.20	0.20	0.022	mg/kg wet
1,2-Dichloropropane	< 0.20	0.20	0.021	mg/kg wet
1,3,5-Trimethylbenzene	< 0.20	0.20	0.025	mg/kg wet
1,3-Dichlorobenzene	< 0.20	0.20	0.0090	mg/kg wet
1,3-Dichloropropane	< 0.20	0.20	0.015	mg/kg wet
1,4-Dichlorobenzene	< 0.20	0.20	0.016	mg/kg wet
2,2-Dichloropropane	< 0.20	0.20	0.052	mg/kg wet

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505280
Date Reported: 12/10/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0234 - EPA 5035 Soil (Purge and Trap)

Blank (B5L0234-BLK1)

Prepared & Analyzed: 12/02/15

2-Butanone	< 1.0	1.0	0.094	mg/kg wet
2-Chlorotoluene	< 0.20	0.20	0.020	mg/kg wet
4-Chlorotoluene	< 0.20	0.20	0.022	mg/kg wet
Acetone	< 1.0	1.0	0.12	mg/kg wet
Allyl chloride	< 0.20	0.20	0.025	mg/kg wet
Benzene	< 0.20	0.20	0.015	mg/kg wet
Bromobenzene	< 0.20	0.20	0.020	mg/kg wet
Bromochloromethane	< 0.20	0.20	0.023	mg/kg wet
Bromodichloromethane	< 0.20	0.20	0.019	mg/kg wet
Bromoform	< 0.20	0.20	0.036	mg/kg wet
Bromomethane	< 0.20	0.20	0.030	mg/kg wet
Carbon tetrachloride	< 0.20	0.20	0.025	mg/kg wet
Chlorobenzene	< 0.20	0.20	0.014	mg/kg wet
Chloroethane	< 0.20	0.20	0.030	mg/kg wet
Chloroform	< 0.20	0.20	0.031	mg/kg wet
Chloromethane	< 0.20	0.20	0.027	mg/kg wet
cis-1,2-Dichloroethene	< 0.20	0.20	0.012	mg/kg wet
cis-1,3-Dichloropropene	< 0.20	0.20	0.025	mg/kg wet
Dibromochloromethane	< 0.20	0.20	0.025	mg/kg wet
Dibromomethane	< 0.20	0.20	0.025	mg/kg wet
Dichlorodifluoromethane	< 0.20	0.20	0.037	mg/kg wet
Dichlorofluoromethane	< 0.20	0.20	0.010	mg/kg wet
Ethyl ether	< 0.20	0.20	0.024	mg/kg wet
Ethylbenzene	< 0.20	0.20	0.021	mg/kg wet
Hexachlorobutadiene	< 0.50	0.50	0.079	mg/kg wet
Isopropylbenzene	< 0.20	0.20	0.030	mg/kg wet
m,p-Xylene	< 0.40	0.40	0.048	mg/kg wet
Methyl isobutyl ketone	< 0.20	0.20	0.043	mg/kg wet
Methyl tert-butyl ether	< 0.20	0.20	0.0097	mg/kg wet
Methylene chloride	< 0.50	0.50	0.060	mg/kg wet
Naphthalene	< 0.50	0.50	0.048	mg/kg wet
n-Butylbenzene	< 0.20	0.20	0.016	mg/kg wet
n-Propylbenzene	< 0.20	0.20	0.010	mg/kg wet
o-Xylene	< 0.20	0.20	0.017	mg/kg wet
p-Isopropyltoluene	< 0.20	0.20	0.011	mg/kg wet
sec-Butylbenzene	< 0.20	0.20	0.022	mg/kg wet
Styrene	< 0.20	0.20	0.016	mg/kg wet
tert-Butylbenzene	< 0.20	0.20	0.026	mg/kg wet
Tetrachloroethene	< 0.20	0.20	0.038	mg/kg wet

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0234 - EPA 5035 Soil (Purge and Trap)

Blank (B5L0234-BLK1)

Prepared & Analyzed: 12/02/15

Tetrahydrofuran	< 1.0	1.0	0.11	mg/kg wet							
Toluene	< 0.20	0.20	0.0068	mg/kg wet							
trans-1,2-Dichloroethene	< 0.20	0.20	0.018	mg/kg wet							
trans-1,3-Dichloropropene	< 0.20	0.20	0.020	mg/kg wet							
Trichloroethene	< 0.20	0.20	0.018	mg/kg wet							
Trichlorofluoromethane	< 0.20	0.20	0.029	mg/kg wet							
Vinyl chloride	< 0.20	0.20	0.021	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	50.9			ug/L	56.0		90.8	80-124			
Surrogate: Dibromofluoromethane	54.6			ug/L	56.0		97.4	77.1-123			
Surrogate: Toluene-d8	53.9			ug/L	56.0		96.3	78.1-125			

LCS (B5L0234-BS1)

Prepared & Analyzed: 12/02/15

1,1,2,2-Tetrachloroethane	51.3			ug/L	50.0		103	75-120			
1,1-Dichloroethane	49.0			ug/L	50.0		98.0	79.6-120			
1,1-Dichloroethene	48.9			ug/L	50.0		97.7	78.3-120			
1,3,5-Trimethylbenzene	48.4			ug/L	50.0		96.8	77-120			
1,4-Dichlorobenzene	45.8			ug/L	50.0		91.7	75-125			
2-Chlorotoluene	48.1			ug/L	50.0		96.3	75.9-120			
Benzene	48.7			ug/L	50.0		97.3	80-120			
Bromoform	50.4			ug/L	50.0		101	80-120			
Chlorobenzene	48.5			ug/L	50.0		96.9	80-120			
Chloroform	48.6			ug/L	50.0		97.2	80-120			
Ethylbenzene	48.9			ug/L	50.0		97.8	80-120			
n-Butylbenzene	48.2			ug/L	50.0		96.3	75-125			
n-Propylbenzene	49.1			ug/L	50.0		98.2	75-120			
Toluene	48.9			ug/L	50.0		97.8	80-120			
Trichloroethene	48.8			ug/L	50.0		97.6	80-120			
Vinyl chloride	46.0			ug/L	50.0		92.0	75-130			
Surrogate: 4-Bromofluorobenzene	52.0			ug/L	56.0		92.9	80-124			
Surrogate: Dibromofluoromethane	54.1			ug/L	56.0		96.5	77.1-123			
Surrogate: Toluene-d8	53.5			ug/L	56.0		95.5	78.1-125			

Matrix Spike (B5L0234-MS1)

Source: 1505280-10

Prepared & Analyzed: 12/02/15

1,1,2,2-Tetrachloroethane	49.7			ug/L	50.0	<	99.4	75-125			
1,1-Dichloroethane	51.3			ug/L	50.0	<	103	78.7-123			
1,1-Dichloroethene	49.4			ug/L	50.0	<	98.9	75.8-121			
1,3,5-Trimethylbenzene	48.8			ug/L	50.0	<	97.5	75-120			
1,4-Dichlorobenzene	46.0			ug/L	50.0	<	92.0	75-125			
2-Chlorotoluene	48.7			ug/L	50.0	<	97.3	75-120			
Benzene	49.9			ug/L	50.0	<	99.8	80-120			

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505280
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0234 - EPA 5035 Soil (Purge and Trap)

Matrix Spike (B5L0234-MS1)

Source: 1505280-10

Prepared & Analyzed: 12/02/15

Bromoform	50.5			ug/L	50.0	<	101	80-120			
Chlorobenzene	48.9			ug/L	50.0	<	97.8	80-120			
Chloroform	50.4			ug/L	50.0	<	101	80-120			
Ethylbenzene	49.9			ug/L	50.0	<	99.8	80-120			
n-Butylbenzene	47.0			ug/L	50.0	<	94.1	73.8-125			
n-Propylbenzene	48.4			ug/L	50.0	<	96.8	75-120			
Toluene	49.9			ug/L	50.0	<	99.9	80-120			
Trichloroethene	49.9			ug/L	50.0	<	99.7	80-120			
Vinyl chloride	46.7			ug/L	50.0	<	93.4	74.8-130			
Surrogate: 4-Bromofluorobenzene	52.9			ug/L	56.0		94.5	80-124			
Surrogate: Dibromofluoromethane	55.2			ug/L	56.0		98.6	77.1-123			
Surrogate: Toluene-d8	54.6			ug/L	56.0		97.5	78.1-125			

Matrix Spike Dup (B5L0234-MSD1)

Source: 1505280-10

Prepared & Analyzed: 12/02/15

1,1,2,2-Tetrachloroethane	49.8			ug/L	50.0	<	99.7	75-125	0.269	20	
1,1-Dichloroethane	51.3			ug/L	50.0	<	103	78.7-123	0.0807	20	
1,1-Dichloroethene	48.3			ug/L	50.0	<	96.7	75.8-121	2.25	20	
1,3,5-Trimethylbenzene	49.4			ug/L	50.0	<	98.8	75-120	1.28	20	
1,4-Dichlorobenzene	46.3			ug/L	50.0	<	92.6	75-125	0.628	20	
2-Chlorotoluene	48.7			ug/L	50.0	<	97.4	75-120	0.113	20	
Benzene	51.0			ug/L	50.0	<	102	80-120	2.23	20	
Bromoform	49.7			ug/L	50.0	<	99.3	80-120	1.68	20	
Chlorobenzene	48.7			ug/L	50.0	<	97.4	80-120	0.430	20	
Chloroform	50.4			ug/L	50.0	<	101	80-120	0.140	20	
Ethylbenzene	49.4			ug/L	50.0	<	98.9	80-120	0.947	20	
n-Butylbenzene	48.8			ug/L	50.0	<	97.6	73.8-125	3.71	20	
n-Propylbenzene	49.2			ug/L	50.0	<	98.3	75-120	1.52	20	
Toluene	51.4			ug/L	50.0	<	103	80-120	2.97	20	
Trichloroethene	51.0			ug/L	50.0	<	102	80-120	2.18	20	
Vinyl chloride	44.9			ug/L	50.0	<	89.8	74.8-130	3.95	20	
Surrogate: 4-Bromofluorobenzene	52.8			ug/L	56.0		94.2	80-124			
Surrogate: Dibromofluoromethane	55.2			ug/L	56.0		98.6	77.1-123			
Surrogate: Toluene-d8	55.7			ug/L	56.0		99.5	78.1-125			

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505280 Date Reported: 12/10/15
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Notes and Definitions

T5 Laboratory not licensed for this parameter.

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate(s).

M1 Matrix spike recovery was high, the associated blank spike recovery was acceptable.

L1 Results in the diesel organics range are primarily due to overlap from a heavy oil range product.

< Less than value listed

dry Sample results reported on a dry weight basis

NA Not applicable. The %RPD is not calculated from values less than the reporting limit.

MDL Method Detection Limit; Equivalent to the method LOD (Limit of Detection)

RL Reporting Limit

RPD Relative Percent Difference

LCS Laboratory Control Spike = Blank Spike (BS) = Laboratory Fortified Blank (LFB)

MS Matrix Spike = Laboratory Fortified Matrix (LFM)

Chain of Custody

BARR 4700 West 77th Street
Minneapolis, MN 55435-4803
(952) 832-2600

1505280

Project Number: 34511010

Project Name: 4th Ave Floodwall

Sample Origination State: ND (use two letter postal state abbreviation)

COC Number:

Nº 45062

Location	Start Depth	Stop Depth	Depth Unit (m, ft, or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix		Type		SVOCs (HCH)	SVOCs (unpreserved)	Dissolved Metals (HNO ₃)	Total Metals (HNO ₃)	General (unpreserved)	Diesel Range Organics (NCH)	Nutrients (H ₂ SO ₄) #4	VOCs (tared MeOH) #1/GP0	GRX (tared MeOH) #4	DRO (tared unpreserved)	Metals (unpreserved)	SVOCs (unpreserved) #2/DZRO metals	% solids (plastic vial, unpres.)	Total Num	Laboratory: <u>Legend</u>		
						Water	Soil	Grub	Comp																	OC
1. B-1	10	12	ft	11/23/15	17:15	X		X															4	STAT	01/10	
2. B-1	16	18			17:15																				02	
3. B-2a	2	4		11/24/15	10:00																				03	
4. B-2a	4	6			10:00																				04	
5. B-3	6	8			11:00																				05	
6. B-3	0	2			11:00																				06	
7. B-4	2	4			12:00																				07	
8. B-4	8	10			12:00																				08	
9. B-5	0	2			12:45																				09	
10. B-5	6	8	ft		12:45																				10	

Common Parameter/Container - Preservation Key

- #1 - Volatile Organics = BTEX, GRX TPH, 8260 Full List
- #2 - Semivolatile Organics = PAHs, PCB, Dioxins, 8270 Full List, Herbicide/Pesticide/PCBs
- #3 - General = pH, Chloride, Fluoride, Alkalinity, TSS, TDS, TS, Sulfam
- #4 - Nutrients = COD, TOC, Phenols, Ammonia Nitrogen, TKN

Relinquished By: <i>Amk</i>	On Ice? <input checked="" type="checkbox"/> N	Date: 11/24/15	Time: 17:00	Received by:	Date:	Time:
Relinquished By:	On Ice? <input checked="" type="checkbox"/> N	Date:	Time:	Received by: <i>OK</i>	Date: 11/25/15	Time: 09:30
Samples Shipped VIA: <input type="checkbox"/> Air Freight <input checked="" type="checkbox"/> Federal Express <input type="checkbox"/> Sampler				Air Bill Number: <i>972</i>		
<input type="checkbox"/> Other:						

Distribution: White-Original Accompanies Shipment to Lab; Yellow - Field Copy; Pink - Lab Coordinator

Chain of Custody										Number of Containers/Preservative										COC <u>2</u> of <u>2</u>	
<div style="display: flex; justify-content: space-between;"> <div> BARR 4700 West 77th Street Minneapolis, MN 55435-4803 (952) 832-2600 </div> <div style="font-size: 2em;">1505280</div> </div>										<div style="display: flex; justify-content: space-around;"> <div>Water</div> <div>Soil</div> </div>										COC <u>2</u> of <u>2</u>	
Project Number: <u>34511010</u> Project Name: <u>4th Ave Floodwall</u> Sample Origin/Location State: <u>ND</u> (use two letter postal state abbreviation) COC Number: <u>NO 45063</u>										<div style="display: flex; justify-content: space-around;"> <div> VOCs (HCL) #1 SVOCs (unpreserved) #2 Dissolved Metals (HNO₃) Total Metals (HNO₃) General (unpreserved) #3 Dissolved Range Organics (HCL) Nutrients (H₂SO₄) #4 </div> <div> VOCs (HCL) #1 SVOCs (unpreserved) #2 Dissolved Metals (HNO₃) Total Metals (HNO₃) General (unpreserved) #3 Dissolved Range Organics (HCL) Nutrients (H₂SO₄) #4 </div> </div>										<div style="display: flex; justify-content: space-around;"> <div> Project Manager: <u>Nancy B</u> Project OC Contact: <u>Andrea Nord</u> Sampled by: <u>AMK</u> Laboratory: <u>Legend</u> </div> <div> Total Number of Containers </div> </div>	
Location	Start Depth	Stop Depth	Depth Unit (m./ft. or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix		Type													
						Water	Soil	Grab	Comp.	OC											
1. <u>B-6</u>			<u>ft</u>	<u>11/24/15</u>		<u>X</u>		<u>X</u>													
2. <u>B-6</u>			<u>I</u>	<u>I</u>		<u>I</u>		<u>I</u>													
3. <u>temp blank NA</u>										<u>X</u>											
4.																					
5.																					
6.																					
7.																					
8.																					
9.																					
10.																					

Common Parameter/Container - Preservation Key

#1 - Volatile Organics = BTEX, GRX TPH, 8260 Full List

#2 - Semivolatile Organics = PAHs, PCP, Dioxins, 8270 Full List, Herbicide/Pesticide/PCBs

#3 - General = pH, Chloride, Fluoride, Alkalinity, TSS, TDS, TS, Sulfate

#4 - Nutrients = COD, TOC, Phenols, Ammonia Nitrogen, TKN

Relinquished By: <u>AMK</u>	On Ice? <u>Yes</u>	Date: <u>11/24/15</u>	Time: <u>1700</u>	Received by: <u>[Signature]</u>	Date: <u>11/25/15</u>	Time: <u>930</u>
Relinquished By: <u>[Signature]</u>	On Ice? <u>Yes</u>	Date: <u>11/24/15</u>	Time: <u>1700</u>	Received by: <u>[Signature]</u>	Date: <u>11/25/15</u>	Time: <u>930</u>
Samples Shipped VIA: <input type="checkbox"/> Air Freight <input type="checkbox"/> Federal Express <input type="checkbox"/> Sampler <input type="checkbox"/> Other: _____				Air Bill Number: _____		

Distribution: White-Original Accompanies Shipment to Lab; Yellow - Field Copy; Pink - Lab Coordinator

Data File: \\lts-target\targetdata\chem\FID5.i\151203.b\029.d

Page 2

Date : 04-DEC-2015 00:41

Client ID:

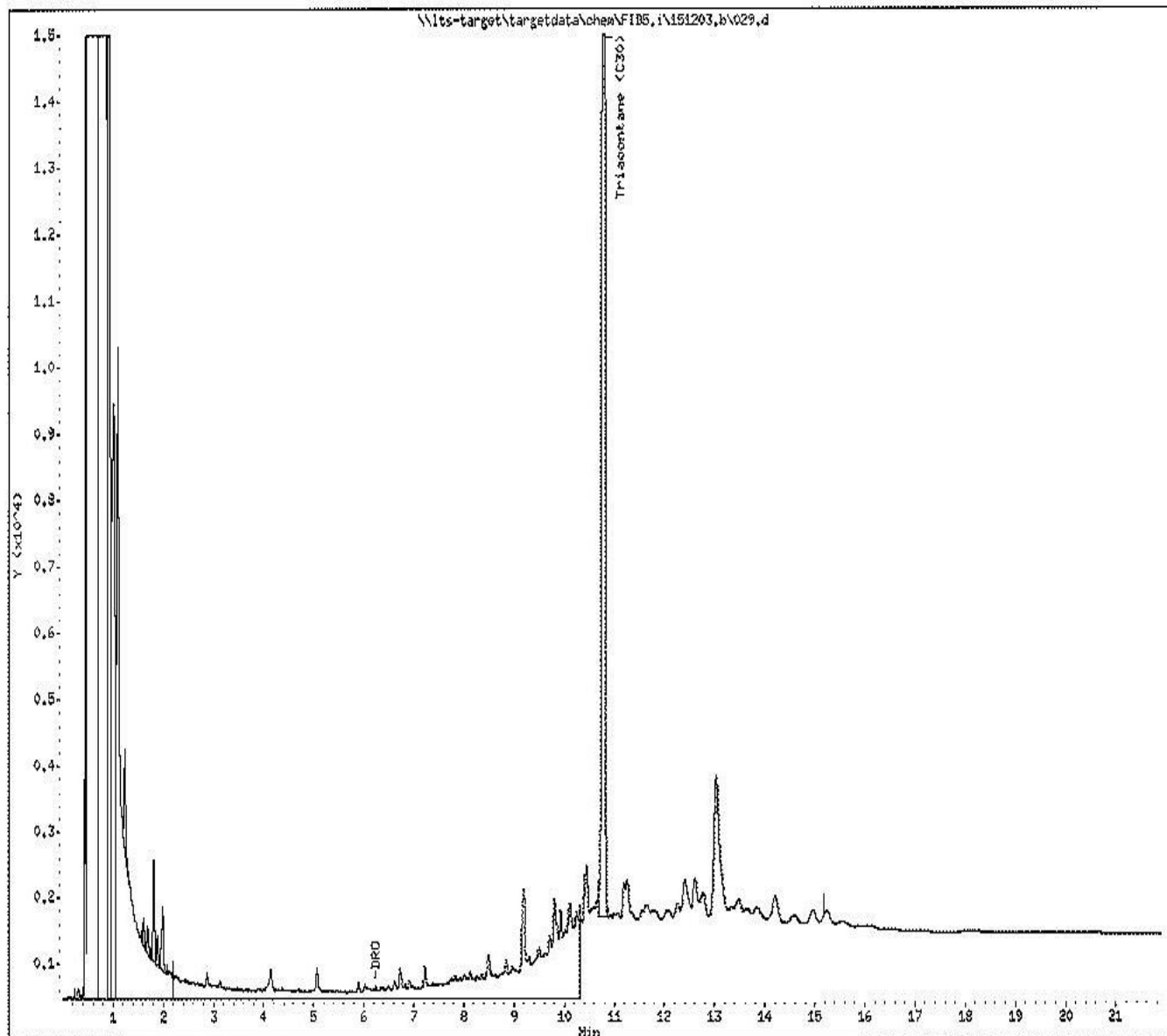
Instrument: FID5.i

Sample Info: 1508250-01

Operator: yg

Column phase:

Column diameter: 0.53



Data File: \\lts-target\targetdata\chem\FID6.i\151203.b\021.d

Page 2

Date: 03-DEC-2015 21:05

Client ID:

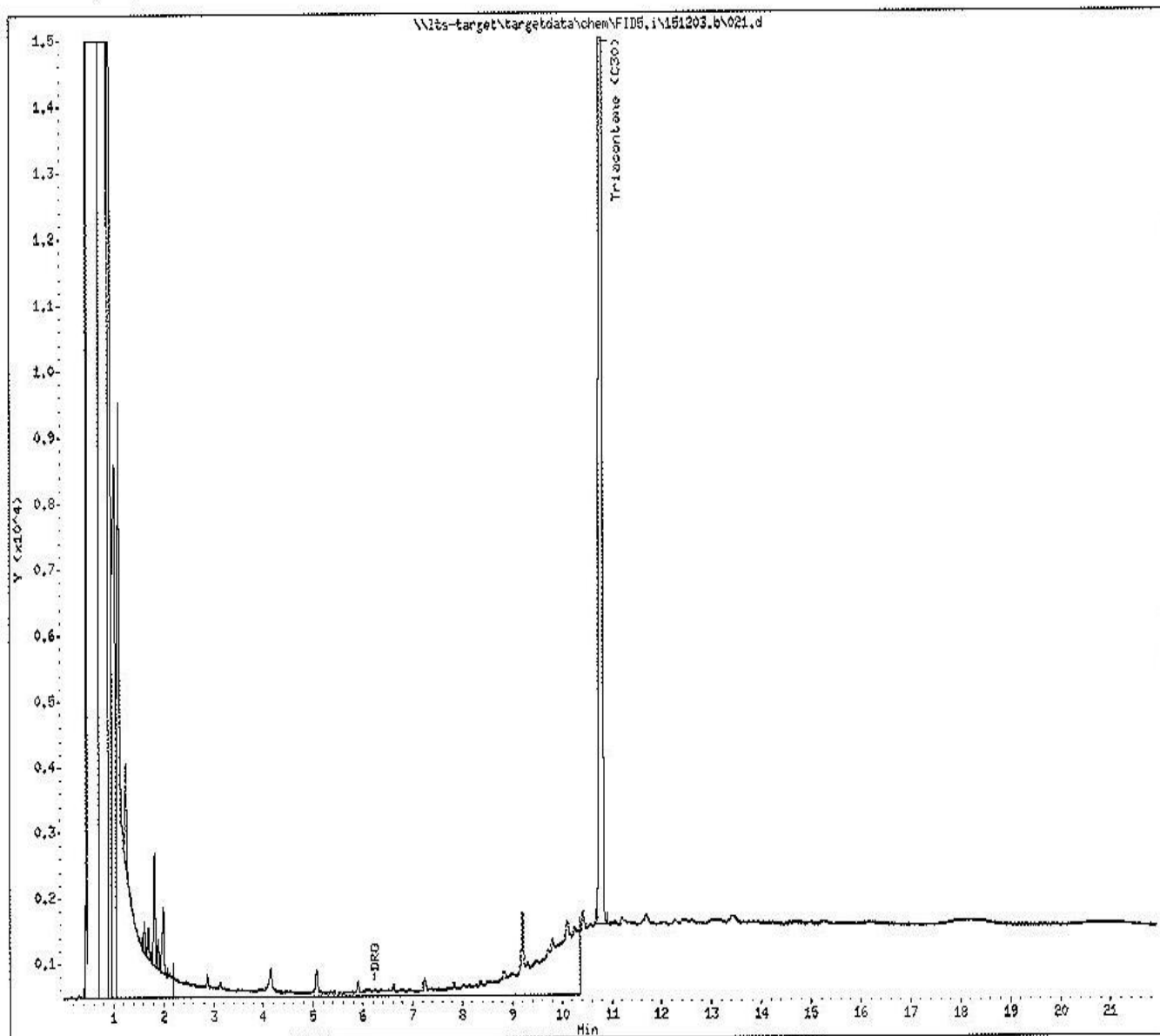
Instrument: FID6.i

Sample Info: 1505280-02

Operator: yp

Column phase:

Column diameter: 0.53



Data File: \\lts-target\targetdata\chem\FID5,i\151203,b\023,d

Page 2

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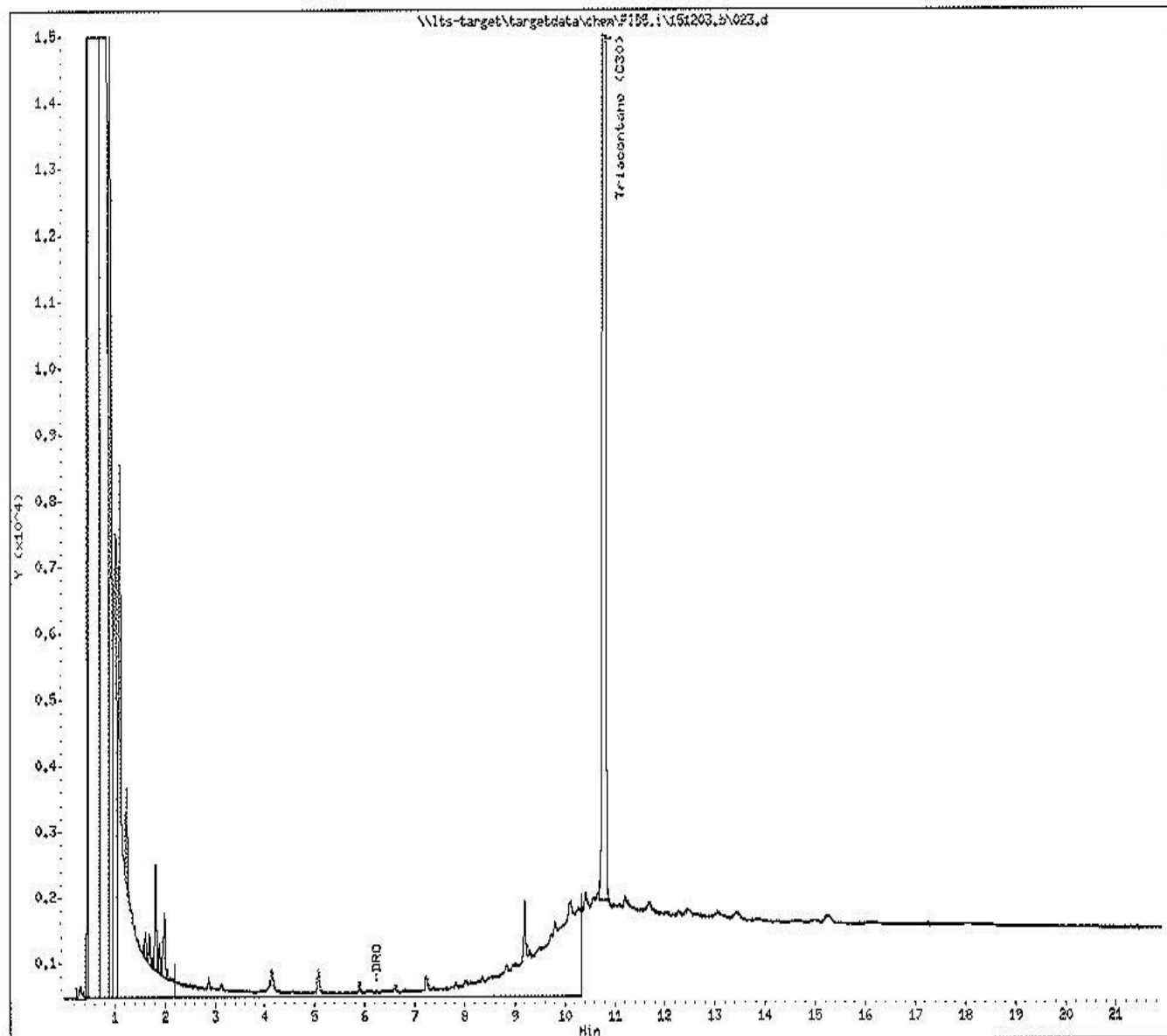
Instrument: FID5,i

Sample Info: 1508290-03

Operator: yp

Column phase:

Column diameter: 0.53



Data File: \\its-target\targetdata\chem\FID5.i\151203.b\025.d

Page 2

Date : 03-30-2015 22:53

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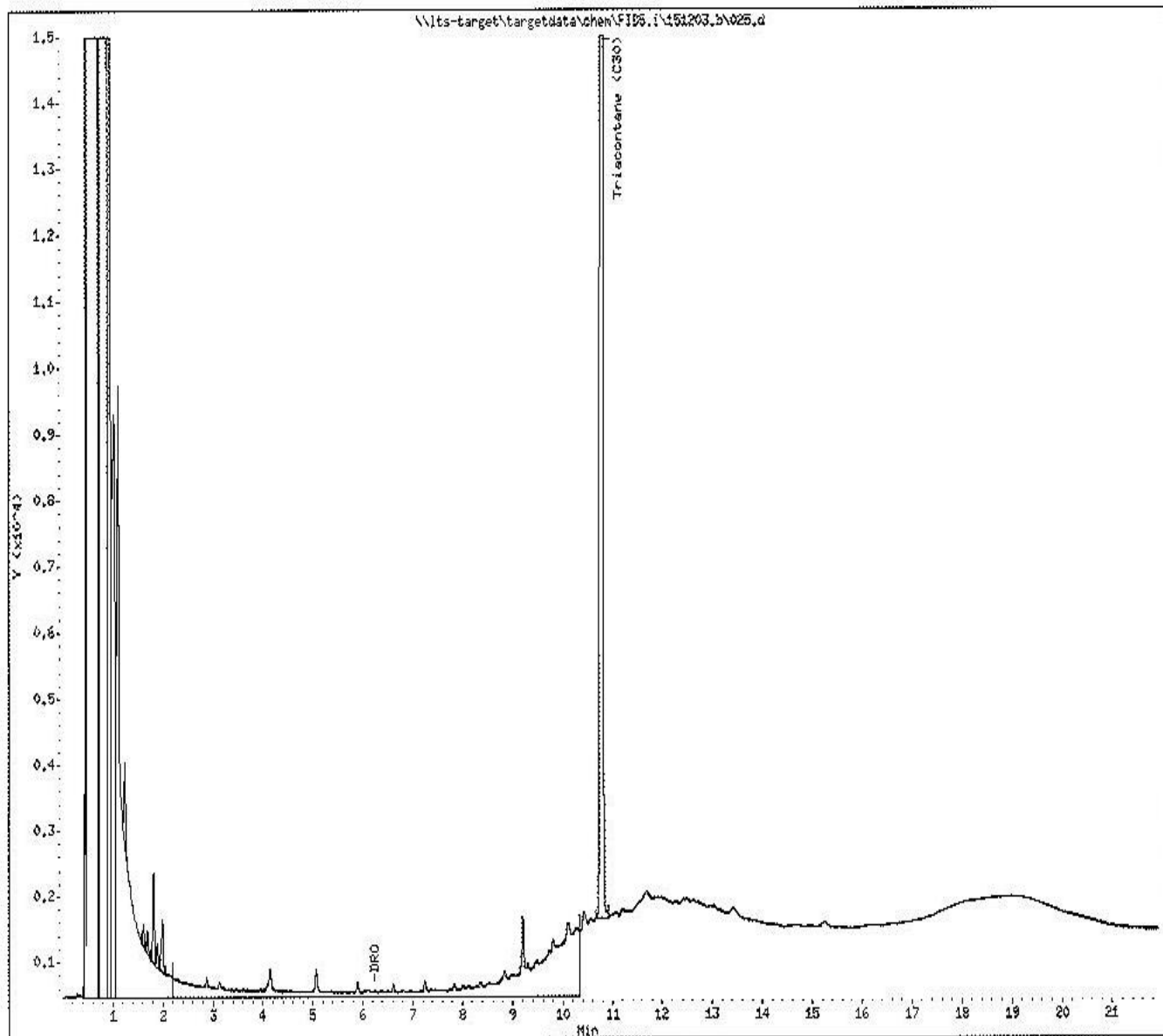
Instrument: FID5.i

Sample Info: 1505290-04

Operator: yg

Column phase:

Column diameter: 0.53



Data File: \\lts-target\targetdata\chem\FID5.i\151203.b\027.d

Page 2

Date : 03-05-2015 23:47

Client ID:

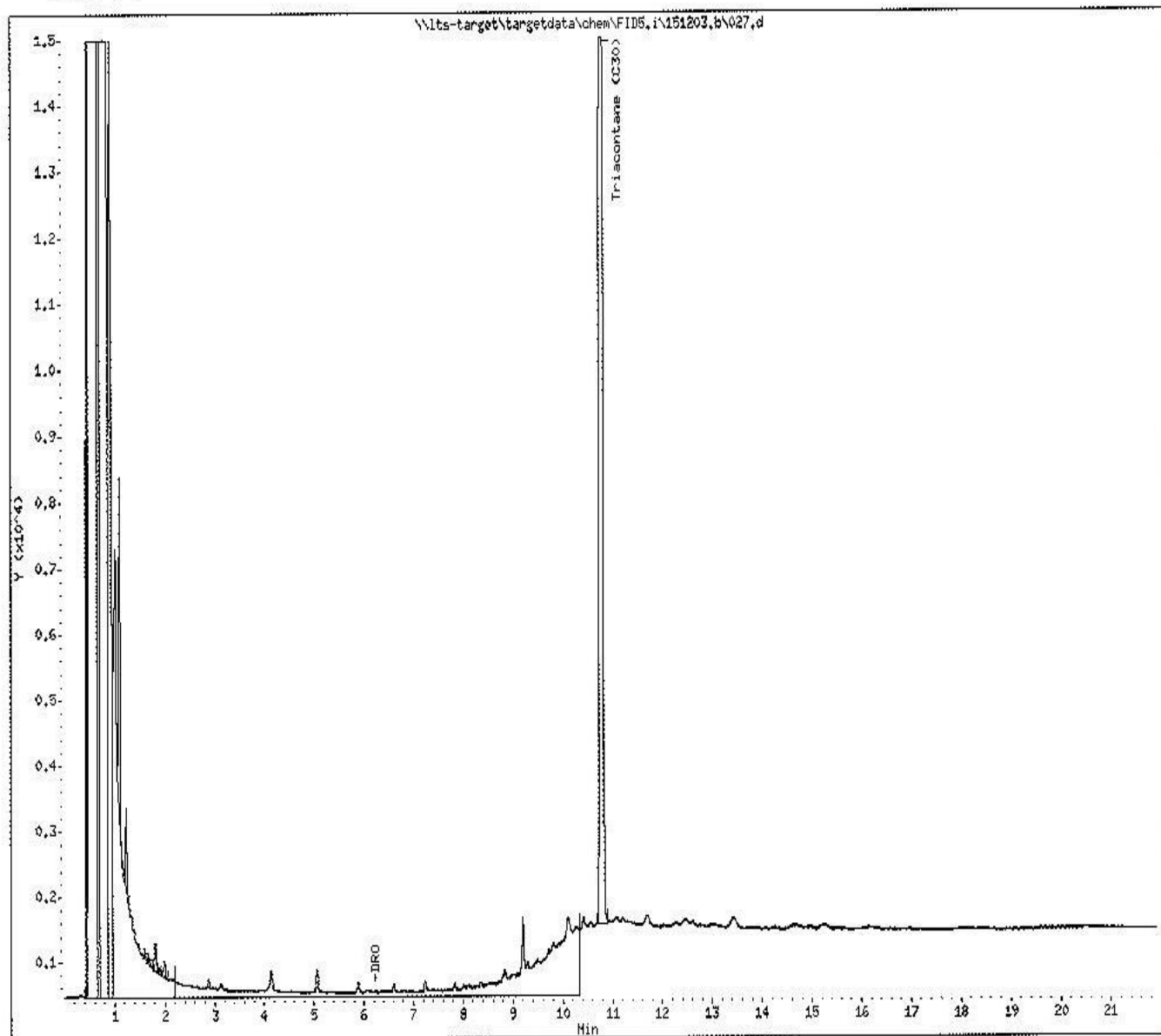
Instrument: FID5.i

Sample Info: 1506286-05

Operator: yp

Column phase:

Column diameter: 0.53



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Date : 03-DEC-2015 17:56
Client ID:
Sample Info: 1505280-06

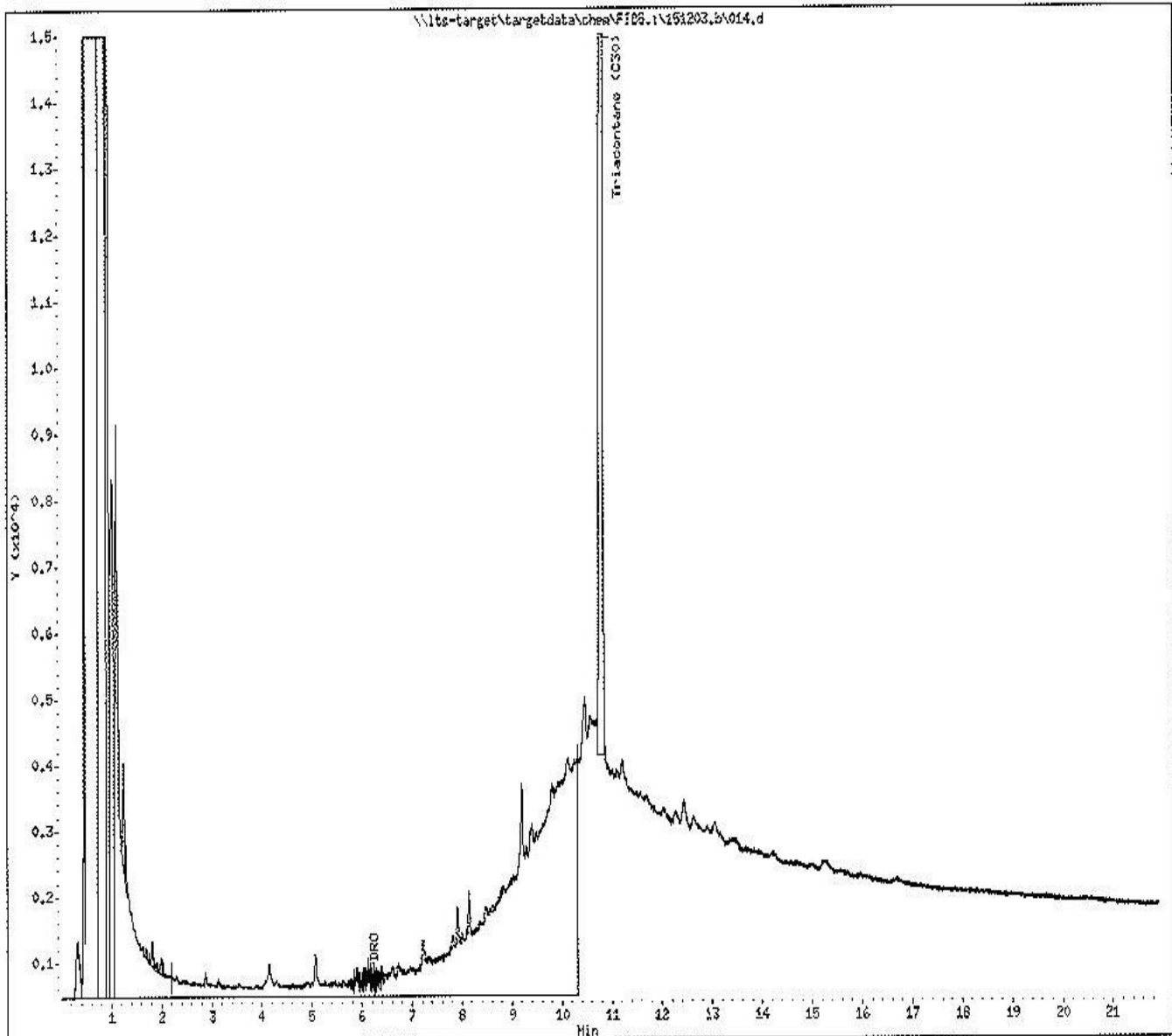
Page 2

Column phase:

Instrument: FID5.i

Operator: gp

Column diameter: 0.53



Data File: \\lts-target\targetdata\chem\FID5.i\151203.b\038.d

Page 2

Date : 04-28-2015 04:44

Client ID:

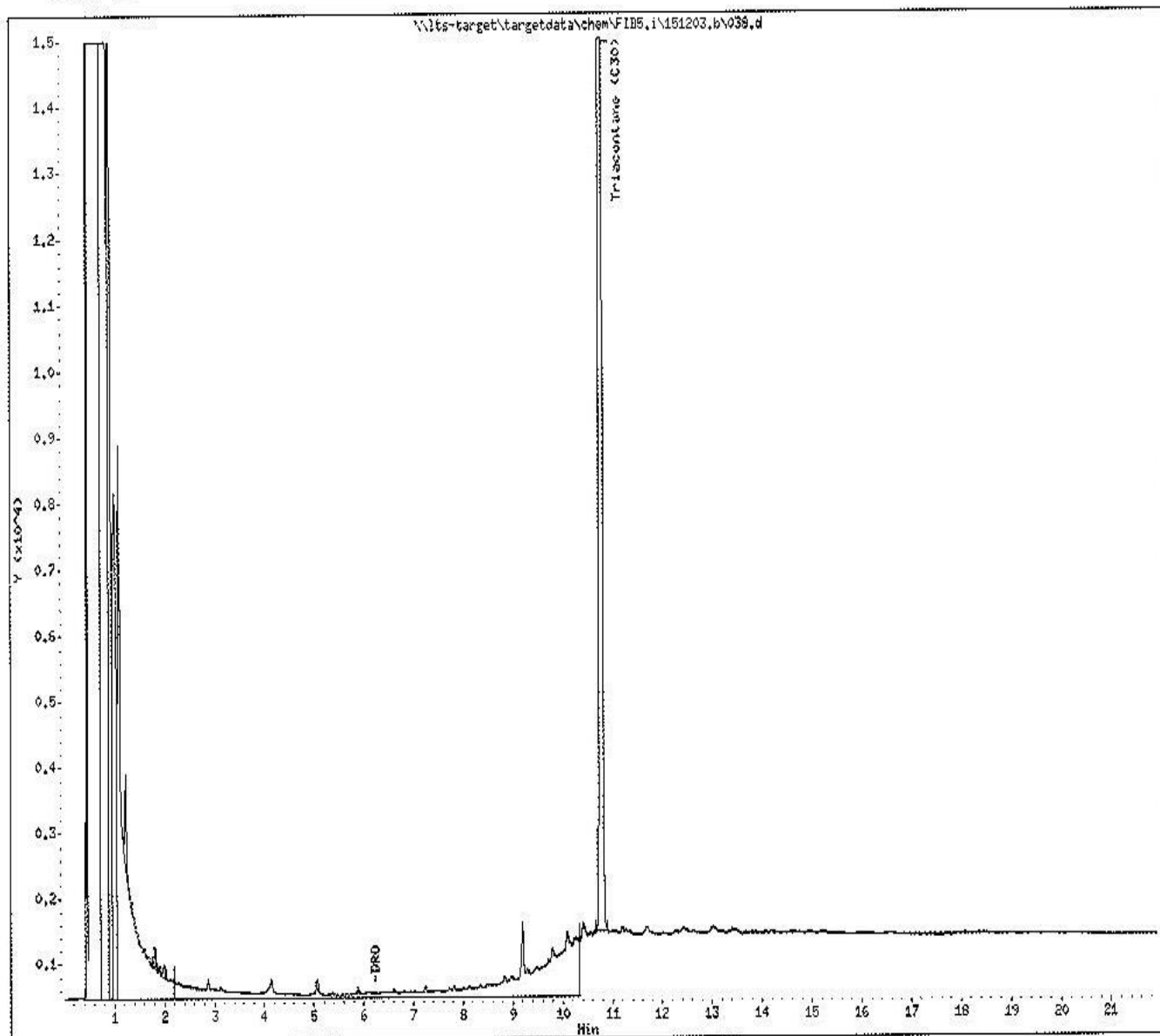
Sample Info: 1509280-07

Instrument: FID5.i

Operator: yp

Column diameter: 0.53

Column phase:



Data File: \\lts-target\targetdata\chem\FID5.i\151203.b\032.d

Page 2

Date : 04-DEC-2015 02:02

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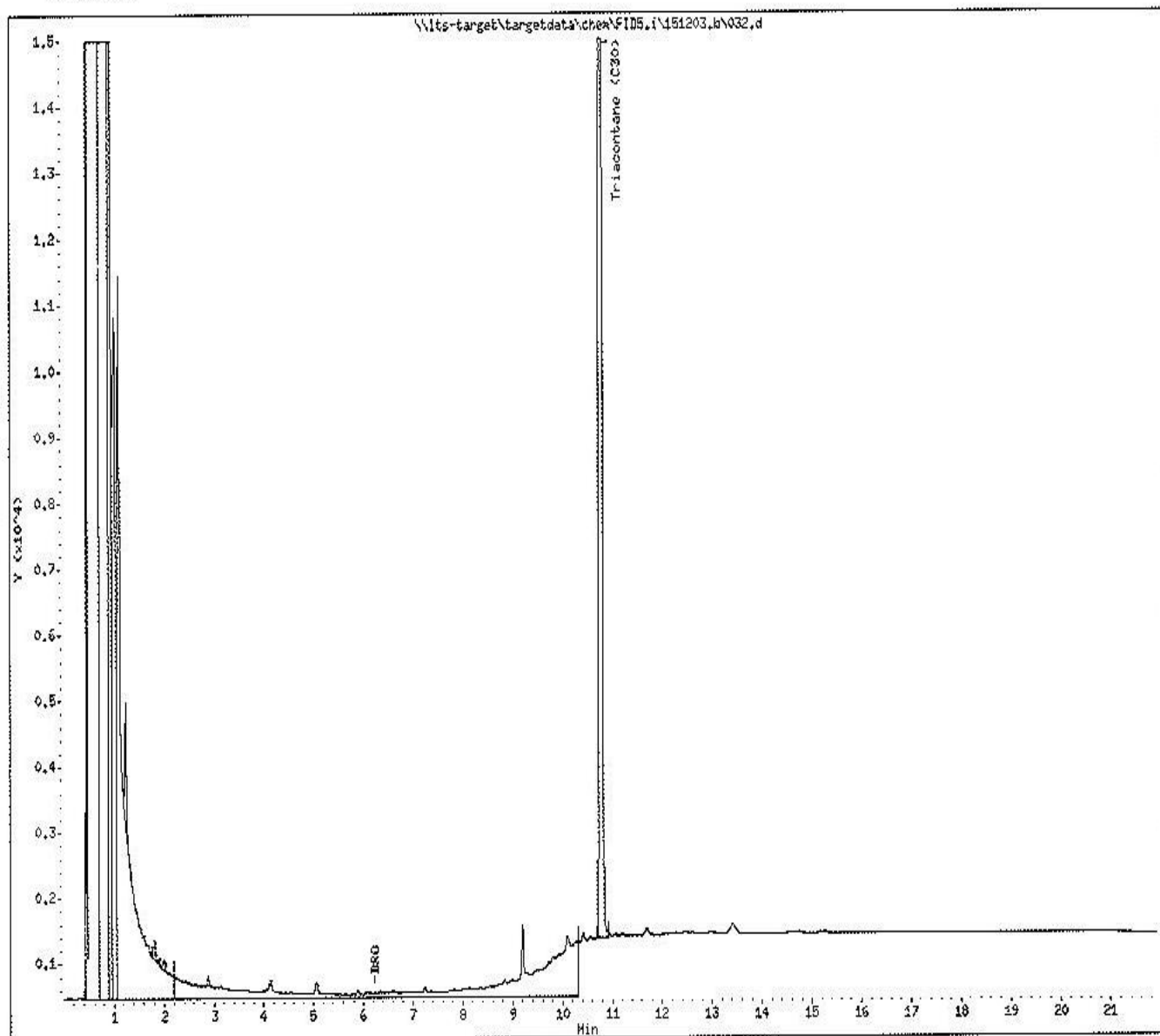
Instrument: FID5.i

Sample Info: 1505280-08

Operator: yp

Column phase:

Column diameter: 0.53



Data File: \\lts-target\targetdata\chem\FID5.i\151203.b\019.d

Page 2

Date : 03-25-2015 20:11

Client ID:

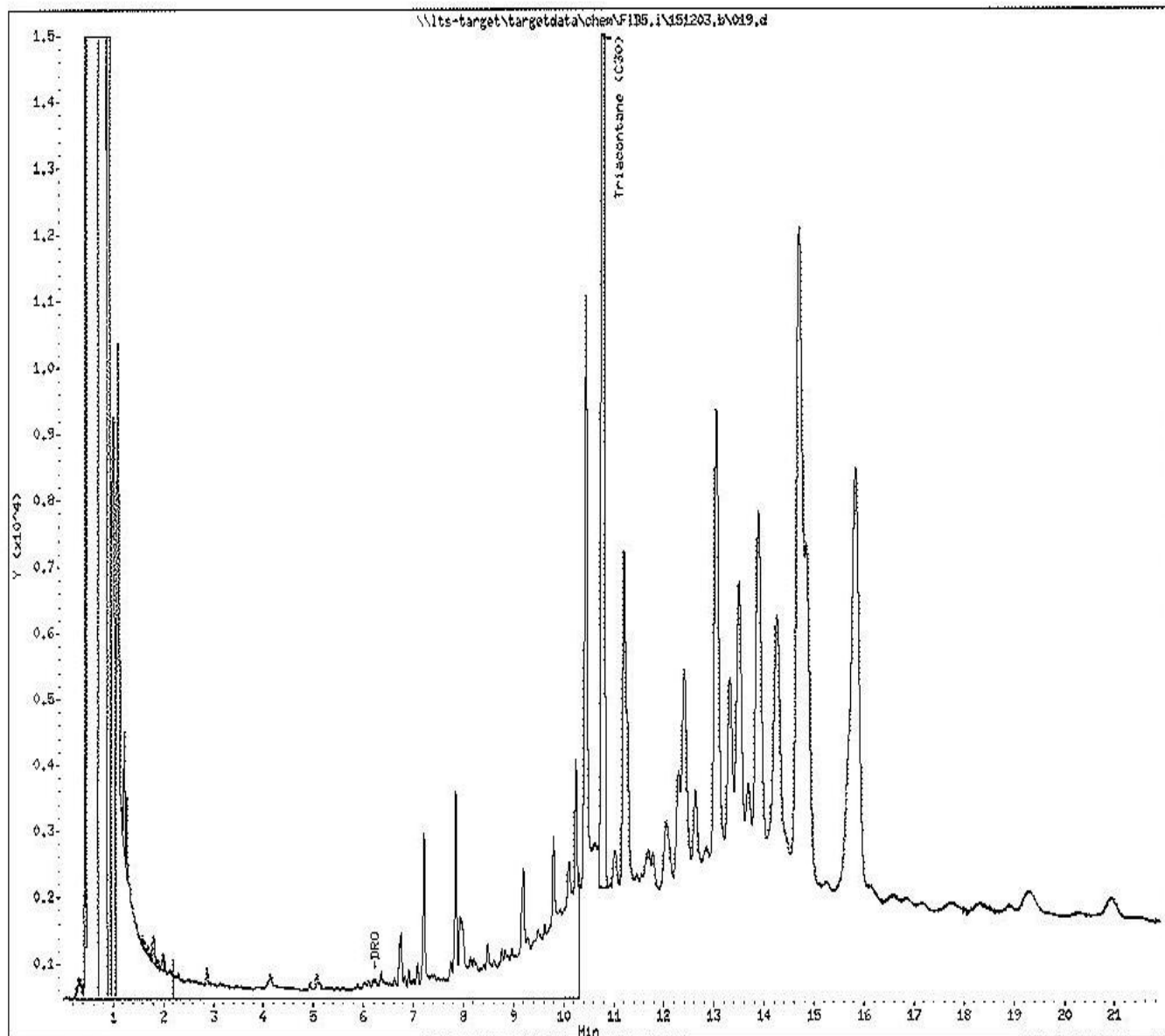
Instrument: FID5.i

Sample Info: 1505280-09

Operator: wp

Column phase:

Column diameter: 0.53



Data File: \\lts-target\targetdata\chem\FID5,i\151203.b\034.d
Date : 04-DEC-2015 02:56
Client ID:
Sample Info: 1505290-10

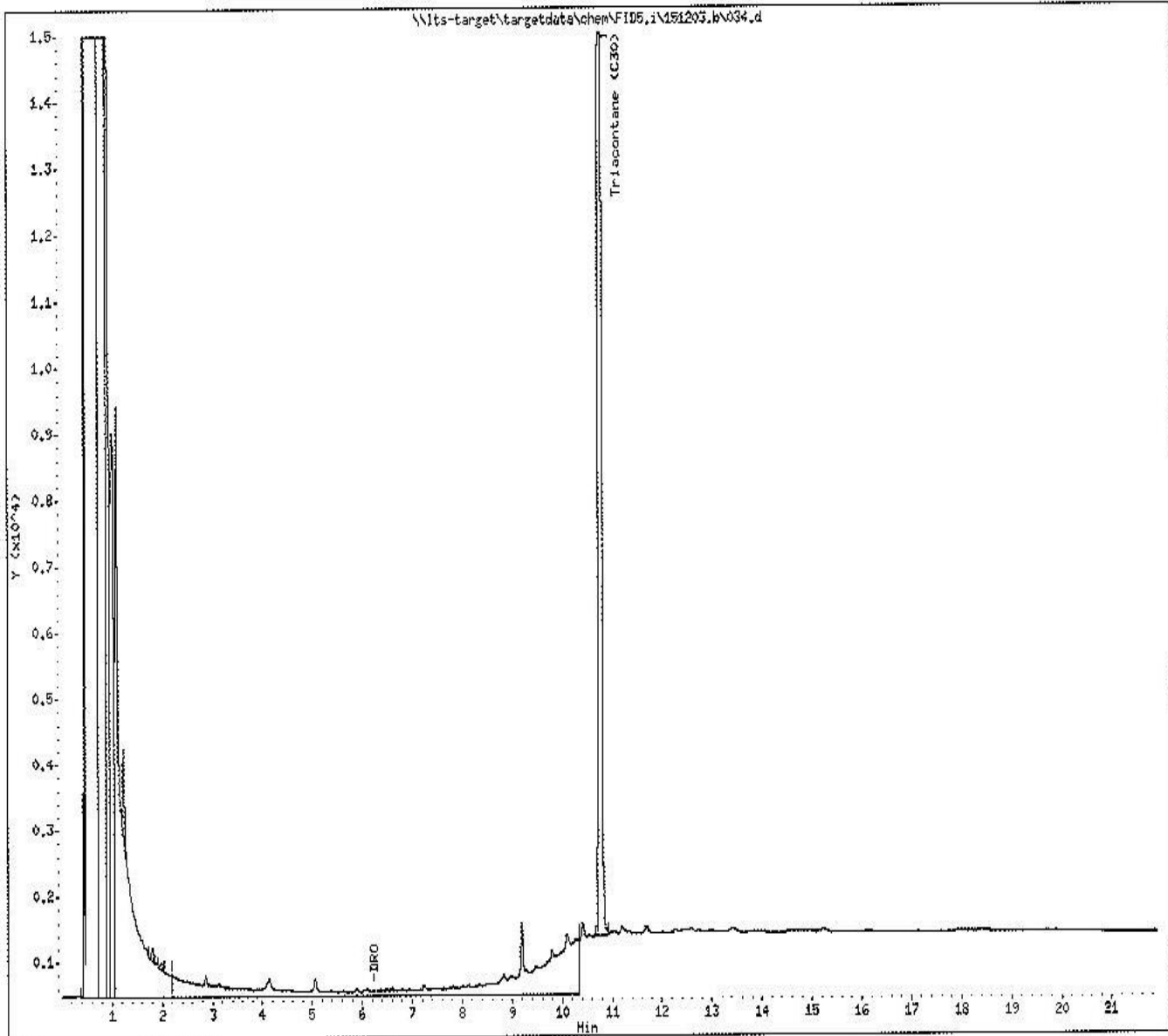
Page 2

Column phase:

Instrument: FID5.i

Operator: yp

Column diameter: 0.53



Data File: \\lts-target\targetdata\chem\FID5.i\151203.b\017.d

Page 2

Date : 03-DEC-2015 19:17

Client ID:

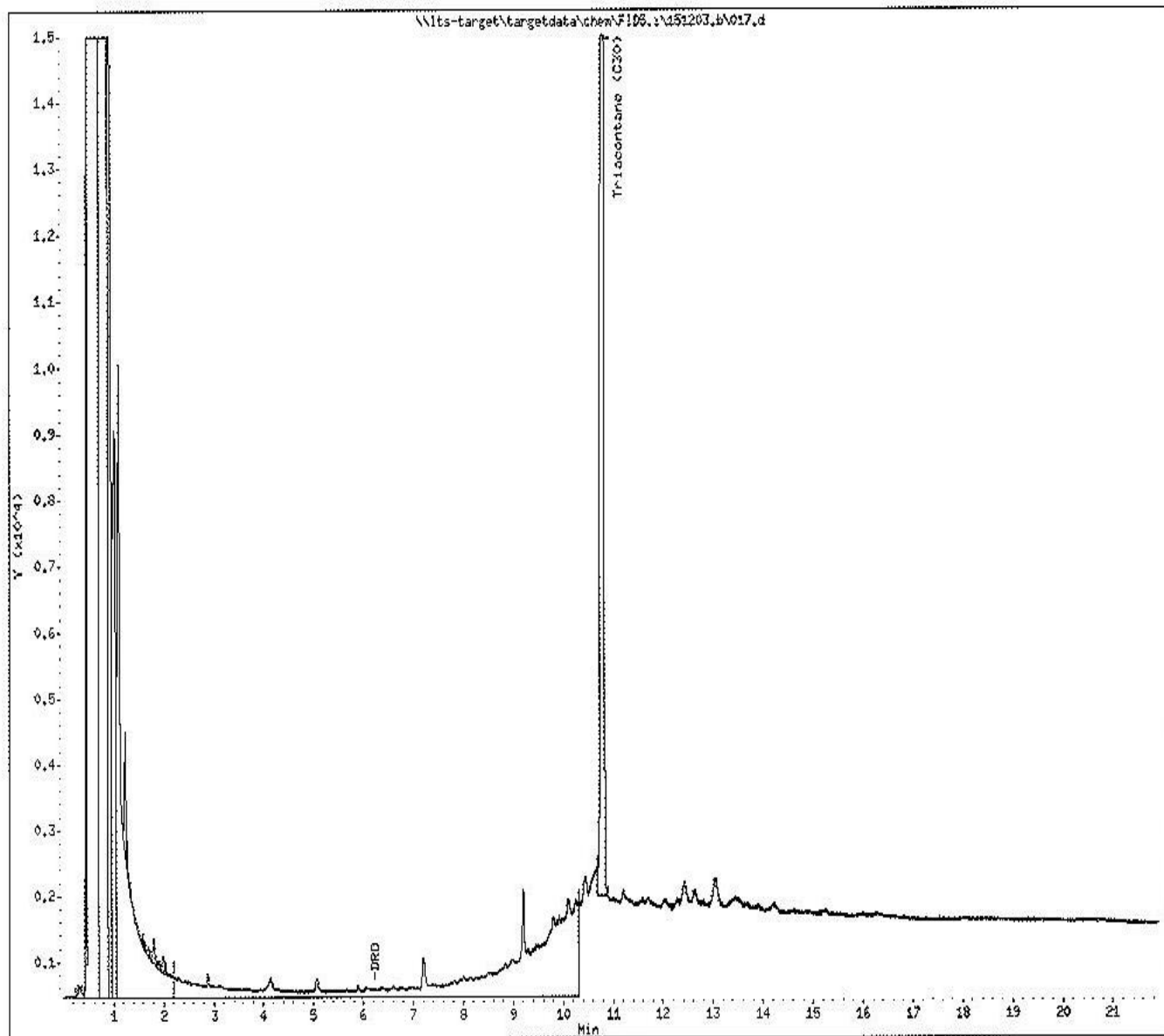
Instrument: FID5.i

Sample Info: 1505280-11

Operator: yp

Column phase:

Column diameter: 0.53



Data File: \\lts-target\targetdata\chem\FID5.i\151203.b\036.d

Page 2

Date : 04-DEC-2015 03:50

Client ID:

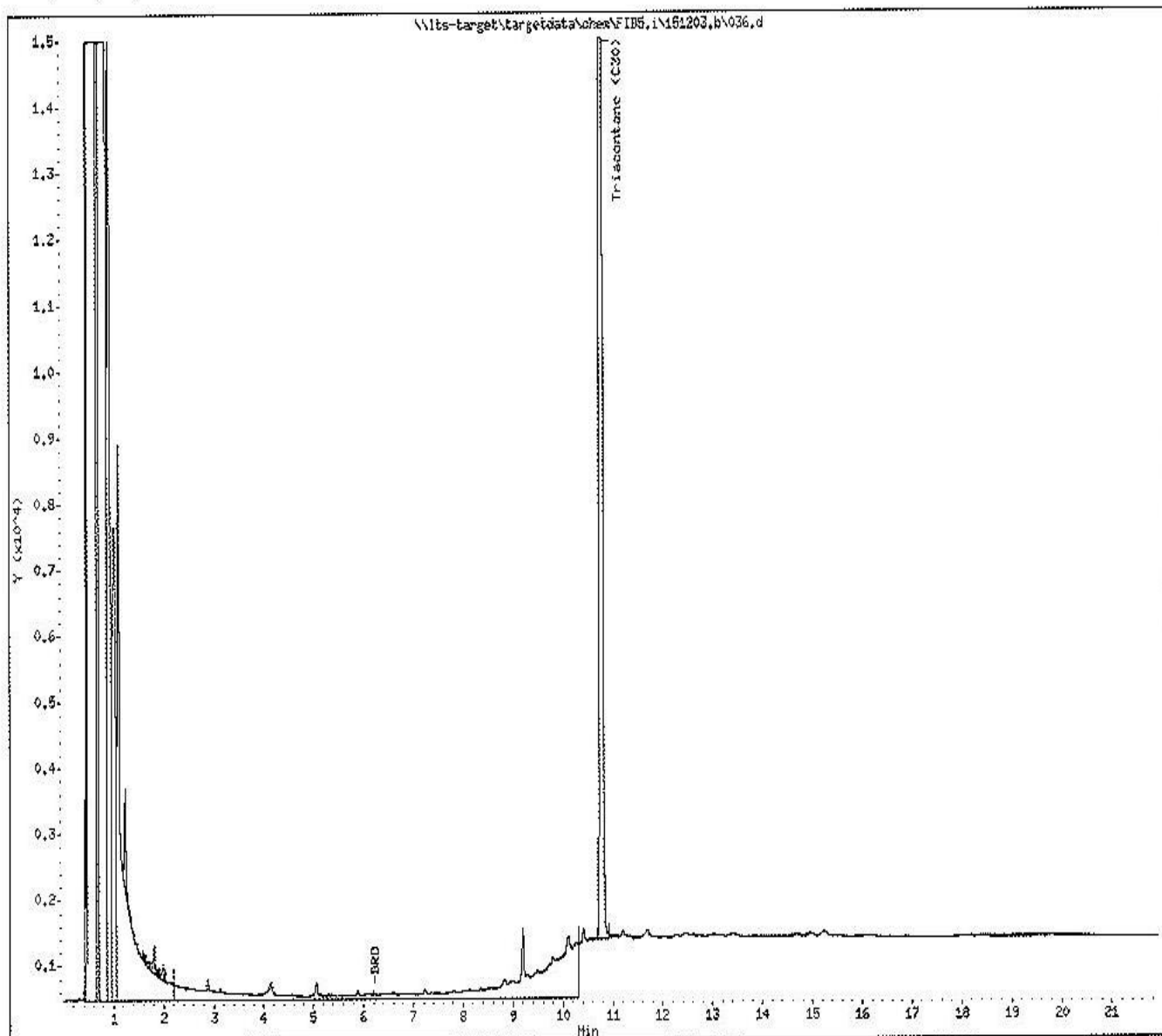
Instrument: FID6.i

Sample Info: 1505280-12

Operator: yp

Column phase:

Column diameter: 0.53





88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

December 08, 2015

Ms. Andrea Nord
Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Work Order Number: 1505279
RE: 34511010

Enclosed are the results of analyses for samples received by the laboratory on 11/25/15. If you have any questions concerning this report, please feel free to contact me.

Results are not blank corrected unless noted within the report. Additionally, all QC results meet requirements unless noted.

All samples will be retained by Legend Technical Services, Inc., unless consumed in the analysis, at ambient conditions for 30 days from the date of this report and then discarded unless other arrangements are made. All samples were received in acceptable condition unless otherwise noted.

ND Accreditation #R-065

Prepared by,
LEGEND TECHNICAL SERVICES, INC

A handwritten signature in black ink, appearing to read "Bach Pham", is written over a horizontal line.

Bach Pham
Client Manager II
bpham@legend-group.com

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-1_10-20	1505279-01	Groundwater	11/24/15 15:00	11/25/15 09:30
B-3_8.6-18.6	1505279-02	Groundwater	11/24/15 15:45	11/25/15 09:30
Trip Blank	1505279-03	Water	11/24/15 00:00	11/25/15 09:30

Shipping Container Information

Default Cooler	Temperature (°C): 2.4	
Received on ice: Yes	Temperature blank was present	Received on ice pack: No
Received on melt water: No	Ambient: No	Acceptable (IH/ISO only): No
Custody seals: No		

Case Narrative:

The DRO chromatograms are attached for both samples.

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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8015D DRO
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-20 (1505279-01) Groundwater Sampled: 11/24/15 15:00 Received: 11/25/15 9:30										
Diesel Range Organics	120	100	26	ug/L	1	B5L0106	12/01/15	12/01/15	EPA 8015D	
<i>Surrogate: Triacontane (C-30)</i>	<i>81.4</i>			<i>70-130 %</i>		"	"	"	"	
B-3_8.6-18.6 (1505279-02) Groundwater Sampled: 11/24/15 15:45 Received: 11/25/15 9:30										
Diesel Range Organics	210	93	24	ug/L	1	B5L0106	12/01/15	12/01/15	EPA 8015D	L1
<i>Surrogate: Triacontane (C-30)</i>	<i>93.3</i>			<i>70-130 %</i>		"	"	"	"	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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8015D GRO
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-20 (1505279-01) Groundwater Sampled: 11/24/15 15:00 Received: 11/25/15 9:30										
Gasoline range organics	<100	100	16	ug/L	1	B5K2505	11/25/15	11/26/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	99.9			80-150 %		"	"	"	"	
B-3_8.6-18.6 (1505279-02) Groundwater Sampled: 11/24/15 15:45 Received: 11/25/15 9:30										
Gasoline range organics	<100	100	16	ug/L	1	B5K2505	11/25/15	11/26/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	101			80-150 %		"	"	"	"	

Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505279
Date Reported: 12/08/15

DISSOLVED METAL ANALYSIS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_8.6-18.6 (1505279-02) Groundwater Sampled: 11/24/15 15:45 Received: 11/25/15 9:30										
Arsenic	<0.010	0.010	0.0026	mg/L	1	B5L0108	12/01/15	12/01/15	EPA 6010C (Dissolved)	
Barium	0.050	0.020	0.0022	mg/L	1	"	"	"	"	
Cadmium	<0.0010	0.0010	0.000059	mg/L	1	"	"	"	"	
Chromium	<0.010	0.010	0.0012	mg/L	1	"	"	"	"	
Lead	0.014	0.0050	0.0012	mg/L	1	"	"	"	"	
Mercury	<0.010	0.010	0.0023	mg/L	1	"	"	"	"	
Selenium	<0.030	0.030	0.0073	mg/L	1	"	"	"	"	
Silver	<0.0050	0.0050	0.00053	mg/L	1	"	"	"	"	

Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505279
Date Reported: 12/08/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-20 (1505279-01) Groundwater Sampled: 11/24/15 15:00 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<9.3	9.3	0.50	ug/L	1	B5K3004	11/30/15	12/01/15	EPA 8270D	
1,2-Dichlorobenzene	<9.3	9.3	0.44	ug/L	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<9.3	9.3	0.30	ug/L	1	"	"	"	"	
1,3-Dichlorobenzene	<9.3	9.3	0.40	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<9.3	9.3	0.30	ug/L	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<9.3	9.3	0.69	ug/L	1	"	"	"	"	
2,4,5-Trichlorophenol	<9.3	9.3	1.0	ug/L	1	"	"	"	"	
2,4,6-Trichlorophenol	<9.3	9.3	0.77	ug/L	1	"	"	"	"	
2,4-Dichlorophenol	<9.3	9.3	0.73	ug/L	1	"	"	"	"	
2,4-Dimethylphenol	<9.3	9.3	0.93	ug/L	1	"	"	"	"	
2,4-Dinitrophenol	<9.3	9.3	0.65	ug/L	1	"	"	"	"	
2,4-Dinitrotoluene	<9.3	9.3	0.41	ug/L	1	"	"	"	"	
2,6-Dichlorophenol	<9.3	9.3	0.87	ug/L	1	"	"	"	"	
2,6-Dinitrotoluene	<9.3	9.3	0.36	ug/L	1	"	"	"	"	
2-Chloronaphthalene	<9.3	9.3	0.36	ug/L	1	"	"	"	"	
2-Chlorophenol	<9.3	9.3	1.1	ug/L	1	"	"	"	"	
2-Methylnaphthalene	<9.3	9.3	0.65	ug/L	1	"	"	"	"	
2-Methylphenol	<9.3	9.3	1.3	ug/L	1	"	"	"	"	
2-Nitroaniline	<9.3	9.3	0.78	ug/L	1	"	"	"	"	
2-Nitrophenol	<9.3	9.3	0.80	ug/L	1	"	"	"	"	
3&4-Methylphenol	<9.3	9.3	1.4	ug/L	1	"	"	"	"	
3,3'-Dichlorobenzidine	<23	23	9.3	ug/L	1	"	"	"	"	
3-Nitroaniline	<9.3	9.3	1.9	ug/L	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<9.3	9.3	0.93	ug/L	1	"	"	"	"	
4-Bromophenyl phenyl ether	<9.3	9.3	0.32	ug/L	1	"	"	"	"	
4-Chloro-3-methylphenol	<9.3	9.3	0.64	ug/L	1	"	"	"	"	
4-Chloroaniline	<9.3	9.3	2.1	ug/L	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<9.3	9.3	0.42	ug/L	1	"	"	"	"	
4-Nitroaniline	<9.3	9.3	1.1	ug/L	1	"	"	"	"	
4-Nitrophenol	<9.3	9.3	0.85	ug/L	1	"	"	"	"	
Acenaphthene	<9.3	9.3	0.38	ug/L	1	"	"	"	"	
Acenaphthylene	<9.3	9.3	0.36	ug/L	1	"	"	"	"	
Aniline	<9.3	9.3	1.2	ug/L	1	"	"	"	"	
Anthracene	<9.3	9.3	0.34	ug/L	1	"	"	"	"	
Benzidine	<9.3	9.3	7.7	ug/L	1	"	"	"	"	
Benzo(a)anthracene	<9.3	9.3	0.21	ug/L	1	"	"	"	"	
Benzo(a)pyrene	<9.3	9.3	0.32	ug/L	1	"	"	"	"	
Benzo(b)fluoranthene	<9.3	9.3	0.17	ug/L	1	"	"	"	"	
Benzo(g,h,i)perylene	<9.3	9.3	0.40	ug/L	1	"	"	"	"	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-20 (1505279-01) Groundwater Sampled: 11/24/15 15:00 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<9.3	9.3	0.51	ug/L	1	B5K3004	11/30/15	12/01/15	EPA 8270D	
Benzoic acid	<9.3	9.3	1.7	ug/L	1	"	"	"	"	
Benzyl alcohol	<9.3	9.3	0.64	ug/L	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<9.3	9.3	0.38	ug/L	1	"	"	"	"	
Bis(2-chloroethyl)ether	<9.3	9.3	0.55	ug/L	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<9.3	9.3	0.44	ug/L	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	9.8	9.3	0.72	ug/L	1	"	"	"	"	
Butyl benzyl phthalate	<9.3	9.3	0.63	ug/L	1	"	"	"	"	
Carbazole	<9.3	9.3	0.39	ug/L	1	"	"	"	"	
Chrysene	<9.3	9.3	0.32	ug/L	1	"	"	"	"	
Dibenz(a,h)anthracene	<9.3	9.3	0.29	ug/L	1	"	"	"	"	
Dibenzofuran	<9.3	9.3	0.72	ug/L	1	"	"	"	"	
Diethyl phthalate	<9.3	9.3	0.39	ug/L	1	"	"	"	"	
Dimethyl phthalate	<9.3	9.3	0.41	ug/L	1	"	"	"	"	
Di-n-butyl phthalate	<9.3	9.3	0.39	ug/L	1	"	"	"	"	
Di-n-octyl phthalate	<9.3	9.3	0.45	ug/L	1	"	"	"	"	
Fluoranthene	<9.3	9.3	0.34	ug/L	1	"	"	"	"	
Fluorene	<9.3	9.3	0.33	ug/L	1	"	"	"	"	
Hexachlorobenzene	<9.3	9.3	0.28	ug/L	1	"	"	"	"	
Hexachlorobutadiene	<9.3	9.3	0.35	ug/L	1	"	"	"	"	
Hexachlorocyclopentadiene	<9.3	9.3	0.49	ug/L	1	"	"	"	"	
Hexachloroethane	<9.3	9.3	0.57	ug/L	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<9.3	9.3	0.35	ug/L	1	"	"	"	"	
Isophorone	<9.3	9.3	0.42	ug/L	1	"	"	"	"	
Naphthalene	<9.3	9.3	0.31	ug/L	1	"	"	"	"	
Nitrobenzene	<9.3	9.3	0.48	ug/L	1	"	"	"	"	
N-Nitrosodimethylamine	<9.3	9.3	0.32	ug/L	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<9.3	9.3	0.44	ug/L	1	"	"	"	"	
N-Nitrosodiphenylamine	<9.3	9.3	0.50	ug/L	1	"	"	"	"	
Pentachlorophenol	<9.3	9.3	1.1	ug/L	1	"	"	"	"	
Phenanthrene	<9.3	9.3	0.26	ug/L	1	"	"	"	"	
Phenol	<9.3	9.3	1.1	ug/L	1	"	"	"	"	
Pyrene	<9.3	9.3	0.46	ug/L	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	67.3			30-122 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	75.7			39.2-104 %		"	"	"	"	
Surrogate: 2-Fluorophenol	41.6			30-80.1 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	70.9			51.2-103 %		"	"	"	"	
Surrogate: Phenol-d6	37.8			30-75.3 %		"	"	"	"	
Surrogate: Terphenyl-d14	63.1			30-116 %		"	"	"	"	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_8.6-18.6 (1505279-02) Groundwater Sampled: 11/24/15 15:45 Received: 11/25/15 9:30										
1,2,4-Trichlorobenzene	<10	10	0.53	ug/L	1	B5K3004	11/30/15	12/01/15	EPA 8270D	
1,2-Dichlorobenzene	<10	10	0.47	ug/L	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<10	10	0.32	ug/L	1	"	"	"	"	
1,3-Dichlorobenzene	<10	10	0.43	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<10	10	0.32	ug/L	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<10	10	0.74	ug/L	1	"	"	"	"	
2,4,5-Trichlorophenol	<10	10	1.1	ug/L	1	"	"	"	"	
2,4,6-Trichlorophenol	<10	10	0.82	ug/L	1	"	"	"	"	
2,4-Dichlorophenol	<10	10	0.78	ug/L	1	"	"	"	"	
2,4-Dimethylphenol	<10	10	0.99	ug/L	1	"	"	"	"	
2,4-Dinitrophenol	<10	10	0.70	ug/L	1	"	"	"	"	
2,4-Dinitrotoluene	<10	10	0.44	ug/L	1	"	"	"	"	
2,6-Dichlorophenol	<10	10	0.93	ug/L	1	"	"	"	"	
2,6-Dinitrotoluene	<10	10	0.39	ug/L	1	"	"	"	"	
2-Chloronaphthalene	<10	10	0.38	ug/L	1	"	"	"	"	
2-Chlorophenol	<10	10	1.2	ug/L	1	"	"	"	"	
2-Methylnaphthalene	<10	10	0.70	ug/L	1	"	"	"	"	
2-Methylphenol	<10	10	1.4	ug/L	1	"	"	"	"	
2-Nitroaniline	<10	10	0.83	ug/L	1	"	"	"	"	
2-Nitrophenol	<10	10	0.86	ug/L	1	"	"	"	"	
3&4-Methylphenol	<10	10	1.5	ug/L	1	"	"	"	"	
3,3'-Dichlorobenzidine	<25	25	9.9	ug/L	1	"	"	"	"	
3-Nitroaniline	<10	10	2.0	ug/L	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<10	10	1.0	ug/L	1	"	"	"	"	
4-Bromophenyl phenyl ether	<10	10	0.34	ug/L	1	"	"	"	"	
4-Chloro-3-methylphenol	<10	10	0.68	ug/L	1	"	"	"	"	
4-Chloroaniline	<10	10	2.3	ug/L	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<10	10	0.45	ug/L	1	"	"	"	"	
4-Nitroaniline	<10	10	1.2	ug/L	1	"	"	"	"	
4-Nitrophenol	<10	10	0.91	ug/L	1	"	"	"	"	
Acenaphthene	<10	10	0.41	ug/L	1	"	"	"	"	
Acenaphthylene	<10	10	0.38	ug/L	1	"	"	"	"	
Aniline	<10	10	1.3	ug/L	1	"	"	"	"	
Anthracene	<10	10	0.36	ug/L	1	"	"	"	"	
Benzidine	<100	100	8.2	ug/L	1	"	"	"	"	
Benzo(a)anthracene	<10	10	0.23	ug/L	1	"	"	"	"	
Benzo(a)pyrene	<10	10	0.34	ug/L	1	"	"	"	"	
Benzo(b)fluoranthene	<10	10	0.18	ug/L	1	"	"	"	"	
Benzo(g,h,i)perylene	<10	10	0.43	ug/L	1	"	"	"	"	

Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505279
Date Reported: 12/08/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_8.6-18.6 (1505279-02) Groundwater Sampled: 11/24/15 15:45 Received: 11/25/15 9:30										
Benzo(k)fluoranthene	<10	10	0.55	ug/L	1	B5K3004	11/30/15	12/01/15	EPA 8270D	
Benzoic acid	<10	10	1.8	ug/L	1	"	"	"	"	
Benzyl alcohol	<10	10	0.68	ug/L	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<10	10	0.41	ug/L	1	"	"	"	"	
Bis(2-chloroethyl)ether	<10	10	0.59	ug/L	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<10	10	0.47	ug/L	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<10	10	0.77	ug/L	1	"	"	"	"	
Butyl benzyl phthalate	<10	10	0.67	ug/L	1	"	"	"	"	
Carbazole	<10	10	0.42	ug/L	1	"	"	"	"	
Chrysene	<10	10	0.34	ug/L	1	"	"	"	"	
Dibenz(a,h)anthracene	<10	10	0.31	ug/L	1	"	"	"	"	
Dibenzofuran	<10	10	0.77	ug/L	1	"	"	"	"	
Diethyl phthalate	<10	10	0.42	ug/L	1	"	"	"	"	
Dimethyl phthalate	<10	10	0.44	ug/L	1	"	"	"	"	
Di-n-butyl phthalate	<10	10	0.42	ug/L	1	"	"	"	"	
Di-n-octyl phthalate	<10	10	0.48	ug/L	1	"	"	"	"	
Fluoranthene	<10	10	0.36	ug/L	1	"	"	"	"	
Fluorene	<10	10	0.35	ug/L	1	"	"	"	"	
Hexachlorobenzene	<10	10	0.30	ug/L	1	"	"	"	"	
Hexachlorobutadiene	<10	10	0.37	ug/L	1	"	"	"	"	
Hexachlorocyclopentadiene	<10	10	0.52	ug/L	1	"	"	"	"	
Hexachloroethane	<10	10	0.61	ug/L	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<10	10	0.37	ug/L	1	"	"	"	"	
Isophorone	<10	10	0.45	ug/L	1	"	"	"	"	
Naphthalene	<10	10	0.33	ug/L	1	"	"	"	"	
Nitrobenzene	<10	10	0.51	ug/L	1	"	"	"	"	
N-Nitrosodimethylamine	<10	10	0.34	ug/L	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<10	10	0.47	ug/L	1	"	"	"	"	
N-Nitrosodiphenylamine	<10	10	0.54	ug/L	1	"	"	"	"	
Pentachlorophenol	<10	10	1.2	ug/L	1	"	"	"	"	
Phenanthrene	<10	10	0.28	ug/L	1	"	"	"	"	
Phenol	<10	10	1.2	ug/L	1	"	"	"	"	
Pyrene	<10	10	0.49	ug/L	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	34.0			30-122 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	83.2			39.2-104 %		"	"	"	"	
Surrogate: 2-Fluorophenol	36.3			30-80.1 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	78.0			51.2-103 %		"	"	"	"	
Surrogate: Phenol-d6	41.5			30-75.3 %		"	"	"	"	
Surrogate: Terphenyl-d14	67.0			30-116 %		"	"	"	"	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-20 (1505279-01) Groundwater Sampled: 11/24/15 15:00 Received: 11/25/15 9:30										
1,1,1,2-Tetrachloroethane	<1.0	1.0	0.024	ug/L	1	B5L0232	11/25/15	11/25/15	EPA 8260B	
1,1,1-Trichloroethane	<1.0	1.0	0.069	ug/L	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<1.0	1.0	0.051	ug/L	1	"	"	"	"	
1,1,2-Trichloroethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<1.0	1.0	0.081	ug/L	1	"	"	"	"	T5
1,1-Dichloroethane	<1.0	1.0	0.050	ug/L	1	"	"	"	"	
1,1-Dichloroethene	<1.0	1.0	0.065	ug/L	1	"	"	"	"	
1,1-Dichloropropene	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,2,3-Trichlorobenzene	<5.0	5.0	0.45	ug/L	1	"	"	"	"	
1,2,3-Trichloropropane	<2.5	2.5	0.056	ug/L	1	"	"	"	"	
1,2,4-Trichlorobenzene	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
1,2,4-Trimethylbenzene	<1.0	1.0	0.054	ug/L	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<5.0	5.0	0.033	ug/L	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<2.5	2.5	0.042	ug/L	1	"	"	"	"	
1,2-Dichlorobenzene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
1,2-Dichloroethane	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
1,2-Dichloropropane	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
1,3,5-Trimethylbenzene	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
1,3-Dichlorobenzene	<1.0	1.0	0.068	ug/L	1	"	"	"	"	
1,3-Dichloropropane	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<1.0	1.0	0.047	ug/L	1	"	"	"	"	
2,2-Dichloropropane	<5.0	5.0	0.28	ug/L	1	"	"	"	"	
2-Butanone	<20	20	0.33	ug/L	1	"	"	"	"	
2-Chlorotoluene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
4-Chlorotoluene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Acetone	<20	20	0.32	ug/L	1	"	"	"	"	
Allyl chloride	<5.0	5.0	0.078	ug/L	1	"	"	"	"	
Benzene	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
Bromobenzene	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromochloromethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
Bromodichloromethane	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromoform	<5.0	5.0	0.080	ug/L	1	"	"	"	"	
Bromomethane	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Carbon tetrachloride	<1.0	1.0	0.029	ug/L	1	"	"	"	"	
Chlorobenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
Chloroethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
Chloroform	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Chloromethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
cis-1,2-Dichloroethene	<1.0	1.0	0.097	ug/L	1	"	"	"	"	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-1_10-20 (1505279-01) Groundwater Sampled: 11/24/15 15:00 Received: 11/25/15 9:30										
cis-1,3-Dichloropropene	<1.0	1.0	0.041	ug/L	1	B5L0232	11/25/15	11/25/15	EPA 8260B	
Dibromochloromethane	<2.5	2.5	0.070	ug/L	1	"	"	"	"	
Dibromomethane	<2.5	2.5	0.088	ug/L	1	"	"	"	"	
Dichlorodifluoromethane	<5.0	5.0	0.14	ug/L	1	"	"	"	"	
Dichlorofluoromethane	<1.0	1.0	0.059	ug/L	1	"	"	"	"	T5
Ethyl ether	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
Ethylbenzene	<1.0	1.0	0.033	ug/L	1	"	"	"	"	
Hexachlorobutadiene	<10	10	0.19	ug/L	1	"	"	"	"	
Isopropylbenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
m,p-Xylene	<2.0	2.0	0.087	ug/L	1	"	"	"	"	
Methyl isobutyl ketone	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Methyl tert-butyl ether	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Methylene chloride	<5.0	5.0	0.10	ug/L	1	"	"	"	"	
Naphthalene	<5.0	5.0	0.032	ug/L	1	"	"	"	"	
n-Butylbenzene	<2.5	2.5	0.028	ug/L	1	"	"	"	"	
n-Propylbenzene	<1.0	1.0	0.040	ug/L	1	"	"	"	"	
o-Xylene	<1.0	1.0	0.053	ug/L	1	"	"	"	"	
p-Isopropyltoluene	<2.5	2.5	0.052	ug/L	1	"	"	"	"	
sec-Butylbenzene	<1.0	1.0	0.055	ug/L	1	"	"	"	"	
Styrene	<1.0	1.0	0.048	ug/L	1	"	"	"	"	
tert-Butylbenzene	<1.0	1.0	0.028	ug/L	1	"	"	"	"	
Tetrachloroethene	<1.0	1.0	0.035	ug/L	1	"	"	"	"	
Tetrahydrofuran	<20	20	0.34	ug/L	1	"	"	"	"	T5
Toluene	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.058	ug/L	1	"	"	"	"	
trans-1,3-Dichloropropene	<1.0	1.0	0.067	ug/L	1	"	"	"	"	
Trichloroethene	<1.0	1.0	0.096	ug/L	1	"	"	"	"	
Trichlorofluoromethane	<1.0	1.0	0.26	ug/L	1	"	"	"	"	
Vinyl chloride	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	91.3			80-121 %		"	"	"	"	
Surrogate: Dibromofluoromethane	94.9			79.9-121 %		"	"	"	"	
Surrogate: Toluene-d8	94.0			80-120 %		"	"	"	"	

B-3_8.6-18.6 (1505279-02) Groundwater Sampled: 11/24/15 15:45 Received: 11/25/15 9:30										
1,1,1,2-Tetrachloroethane	<1.0	1.0	0.024	ug/L	1	B5L0232	11/25/15	11/25/15	EPA 8260B	
1,1,1-Trichloroethane	<1.0	1.0	0.069	ug/L	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<1.0	1.0	0.051	ug/L	1	"	"	"	"	
1,1,2-Trichloroethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<1.0	1.0	0.081	ug/L	1	"	"	"	"	T5
1,1-Dichloroethane	<1.0	1.0	0.050	ug/L	1	"	"	"	"	

Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505279
Date Reported: 12/08/15

VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_8.6-18.6 (1505279-02) Groundwater Sampled: 11/24/15 15:45 Received: 11/25/15 9:30										
1,1-Dichloroethene	<1.0	1.0	0.065	ug/L	1	B5L0232	11/25/15	11/25/15	EPA 8260B	
1,1-Dichloropropene	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,2,3-Trichlorobenzene	<5.0	5.0	0.45	ug/L	1	"	"	"	"	
1,2,3-Trichloropropane	<2.5	2.5	0.056	ug/L	1	"	"	"	"	
1,2,4-Trichlorobenzene	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
1,2,4-Trimethylbenzene	<1.0	1.0	0.054	ug/L	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<5.0	5.0	0.033	ug/L	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<2.5	2.5	0.042	ug/L	1	"	"	"	"	
1,2-Dichlorobenzene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
1,2-Dichloroethane	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
1,2-Dichloropropane	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
1,3,5-Trimethylbenzene	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
1,3-Dichlorobenzene	<1.0	1.0	0.068	ug/L	1	"	"	"	"	
1,3-Dichloropropane	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<1.0	1.0	0.047	ug/L	1	"	"	"	"	
2,2-Dichloropropane	<5.0	5.0	0.28	ug/L	1	"	"	"	"	
2-Butanone	<20	20	0.33	ug/L	1	"	"	"	"	
2-Chlorotoluene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
4-Chlorotoluene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Acetone	<20	20	0.32	ug/L	1	"	"	"	"	
Allyl chloride	<5.0	5.0	0.078	ug/L	1	"	"	"	"	
Benzene	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
Bromobenzene	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromochloromethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
Bromodichloromethane	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromoform	<5.0	5.0	0.080	ug/L	1	"	"	"	"	
Bromomethane	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Carbon tetrachloride	<1.0	1.0	0.029	ug/L	1	"	"	"	"	
Chlorobenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
Chloroethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
Chloroform	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Chloromethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
cis-1,2-Dichloroethene	<1.0	1.0	0.097	ug/L	1	"	"	"	"	
cis-1,3-Dichloropropene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Dibromochloromethane	<2.5	2.5	0.070	ug/L	1	"	"	"	"	
Dibromomethane	<2.5	2.5	0.088	ug/L	1	"	"	"	"	
Dichlorodifluoromethane	<5.0	5.0	0.14	ug/L	1	"	"	"	"	
Dichlorofluoromethane	<1.0	1.0	0.059	ug/L	1	"	"	"	"	T5
Ethyl ether	<5.0	5.0	0.091	ug/L	1	"	"	"	"	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-3_8.6-18.6 (1505279-02) Groundwater Sampled: 11/24/15 15:45 Received: 11/25/15 9:30										
Ethylbenzene	<1.0	1.0	0.033	ug/L	1	B5L0232	11/25/15	11/25/15	EPA 8260B	
Hexachlorobutadiene	<10	10	0.19	ug/L	1	"	"	"	"	
Isopropylbenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
m,p-Xylene	<2.0	2.0	0.087	ug/L	1	"	"	"	"	
Methyl isobutyl ketone	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Methyl tert-butyl ether	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Methylene chloride	<5.0	5.0	0.10	ug/L	1	"	"	"	"	
Naphthalene	<5.0	5.0	0.032	ug/L	1	"	"	"	"	
n-Butylbenzene	<2.5	2.5	0.028	ug/L	1	"	"	"	"	
n-Propylbenzene	<1.0	1.0	0.040	ug/L	1	"	"	"	"	
o-Xylene	<1.0	1.0	0.053	ug/L	1	"	"	"	"	
p-Isopropyltoluene	<2.5	2.5	0.052	ug/L	1	"	"	"	"	
sec-Butylbenzene	<1.0	1.0	0.055	ug/L	1	"	"	"	"	
Styrene	<1.0	1.0	0.048	ug/L	1	"	"	"	"	
tert-Butylbenzene	<1.0	1.0	0.028	ug/L	1	"	"	"	"	
Tetrachloroethene	<1.0	1.0	0.035	ug/L	1	"	"	"	"	
Tetrahydrofuran	<20	20	0.34	ug/L	1	"	"	"	"	T5
Toluene	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.058	ug/L	1	"	"	"	"	
trans-1,3-Dichloropropene	<1.0	1.0	0.067	ug/L	1	"	"	"	"	
Trichloroethene	<1.0	1.0	0.096	ug/L	1	"	"	"	"	
Trichlorofluoromethane	<1.0	1.0	0.26	ug/L	1	"	"	"	"	
Vinyl chloride	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	92.9			80-121 %		"	"	"	"	
Surrogate: Dibromofluoromethane	97.3			79.9-121 %		"	"	"	"	
Surrogate: Toluene-d8	95.3			80-120 %		"	"	"	"	

Trip Blank (1505279-03) Water Sampled: 11/24/15 00:00 Received: 11/25/15 9:30

1,1,1,2-Tetrachloroethane	<1.0	1.0	0.024	ug/L	1	B5L0232	11/25/15	11/25/15	EPA 8260B	
1,1,1-Trichloroethane	<1.0	1.0	0.069	ug/L	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<1.0	1.0	0.051	ug/L	1	"	"	"	"	
1,1,2-Trichloroethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<1.0	1.0	0.081	ug/L	1	"	"	"	"	T5
1,1-Dichloroethane	<1.0	1.0	0.050	ug/L	1	"	"	"	"	
1,1-Dichloroethene	<1.0	1.0	0.065	ug/L	1	"	"	"	"	
1,1-Dichloropropene	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,2,3-Trichlorobenzene	<5.0	5.0	0.45	ug/L	1	"	"	"	"	
1,2,3-Trichloropropane	<2.5	2.5	0.056	ug/L	1	"	"	"	"	
1,2,4-Trichlorobenzene	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
1,2,4-Trimethylbenzene	<1.0	1.0	0.054	ug/L	1	"	"	"	"	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trip Blank (1505279-03) Water Sampled: 11/24/15 00:00 Received: 11/25/15 9:30										
1,2-Dibromo-3-chloropropane	<5.0	5.0	0.033	ug/L	1	B5L0232	11/25/15	11/25/15	EPA 8260B	
1,2-Dibromoethane (EDB)	<2.5	2.5	0.042	ug/L	1	"	"	"	"	
1,2-Dichlorobenzene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
1,2-Dichloroethane	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
1,2-Dichloropropane	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
1,3,5-Trimethylbenzene	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
1,3-Dichlorobenzene	<1.0	1.0	0.068	ug/L	1	"	"	"	"	
1,3-Dichloropropane	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<1.0	1.0	0.047	ug/L	1	"	"	"	"	
2,2-Dichloropropane	<5.0	5.0	0.28	ug/L	1	"	"	"	"	
2-Butanone	<20	20	0.33	ug/L	1	"	"	"	"	
2-Chlorotoluene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
4-Chlorotoluene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Acetone	<20	20	0.32	ug/L	1	"	"	"	"	
Allyl chloride	<5.0	5.0	0.078	ug/L	1	"	"	"	"	
Benzene	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
Bromobenzene	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromochloromethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
Bromodichloromethane	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromoform	<5.0	5.0	0.080	ug/L	1	"	"	"	"	
Bromomethane	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Carbon tetrachloride	<1.0	1.0	0.029	ug/L	1	"	"	"	"	
Chlorobenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
Chloroethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
Chloroform	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Chloromethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
cis-1,2-Dichloroethene	<1.0	1.0	0.097	ug/L	1	"	"	"	"	
cis-1,3-Dichloropropene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Dibromochloromethane	<2.5	2.5	0.070	ug/L	1	"	"	"	"	
Dibromomethane	<2.5	2.5	0.088	ug/L	1	"	"	"	"	
Dichlorodifluoromethane	<5.0	5.0	0.14	ug/L	1	"	"	"	"	
Dichlorofluoromethane	<1.0	1.0	0.059	ug/L	1	"	"	"	"	T5
Ethyl ether	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
Ethylbenzene	<1.0	1.0	0.033	ug/L	1	"	"	"	"	
Hexachlorobutadiene	<10	10	0.19	ug/L	1	"	"	"	"	
Isopropylbenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
m,p-Xylene	<2.0	2.0	0.087	ug/L	1	"	"	"	"	
Methyl isobutyl ketone	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Methyl tert-butyl ether	<1.0	1.0	0.056	ug/L	1	"	"	"	"	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trip Blank (1505279-03) Water Sampled: 11/24/15 00:00 Received: 11/25/15 9:30										
Methylene chloride	<5.0	5.0	0.10	ug/L	1	B5L0232	11/25/15	11/25/15	EPA 8260B	
Naphthalene	<5.0	5.0	0.032	ug/L	1	"	"	"	"	
n-Butylbenzene	<2.5	2.5	0.028	ug/L	1	"	"	"	"	
n-Propylbenzene	<1.0	1.0	0.040	ug/L	1	"	"	"	"	
o-Xylene	<1.0	1.0	0.053	ug/L	1	"	"	"	"	
p-Isopropyltoluene	<2.5	2.5	0.052	ug/L	1	"	"	"	"	
sec-Butylbenzene	<1.0	1.0	0.055	ug/L	1	"	"	"	"	
Styrene	<1.0	1.0	0.048	ug/L	1	"	"	"	"	
tert-Butylbenzene	<1.0	1.0	0.028	ug/L	1	"	"	"	"	
Tetrachloroethene	<1.0	1.0	0.035	ug/L	1	"	"	"	"	
Tetrahydrofuran	<20	20	0.34	ug/L	1	"	"	"	"	T5
Toluene	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.058	ug/L	1	"	"	"	"	
trans-1,3-Dichloropropene	<1.0	1.0	0.067	ug/L	1	"	"	"	"	
Trichloroethene	<1.0	1.0	0.096	ug/L	1	"	"	"	"	
Trichlorofluoromethane	<1.0	1.0	0.26	ug/L	1	"	"	"	"	
Vinyl chloride	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	91.5			80-121 %		"	"	"	"	
Surrogate: Dibromofluoromethane	96.5			79.9-121 %		"	"	"	"	
Surrogate: Toluene-d8	95.9			80-120 %		"	"	"	"	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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8015D DRO - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0106 - EPA 3510C (Sep Funnel)											
Blank (B5L0106-BLK1)						Prepared & Analyzed: 12/01/15					
Diesel Range Organics	< 100	100	26	ug/L							
Surrogate: Triacontane (C-30)	418			ug/L	400		104	70-130			
LCS (B5L0106-BS1)						Prepared & Analyzed: 12/01/15					
Diesel Range Organics	1570	100	26	ug/L	1600		98.4	70-130			
Surrogate: Triacontane (C-30)	406			ug/L	400		101	70-130			
LCS Dup (B5L0106-BSD1)						Prepared: 12/01/15 Analyzed: 12/02/15					
Diesel Range Organics	1610	100	26	ug/L	1600		100	70-130	2.11	20	
Surrogate: Triacontane (C-30)	407			ug/L	400		102	70-130			

Barr Engineering Co.	Project: 34511010	
4700 W 77th St	Project Number: 34511010	Work Order #: 1505279
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/08/15

8015D GRO - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5K2505 - EPA 5030 Water (Purge and Trap)											
Blank (B5K2505-BLK1)						Prepared: 11/25/15 Analyzed: 11/26/15					
Gasoline range organics	< 100	100	16	ug/L							
Surrogate: 4-Fluorochlorobenzene	20.0			ug/L	20.0		99.9	80-150			
LCS (B5K2505-BS1)						Prepared: 11/25/15 Analyzed: 11/26/15					
Gasoline range organics	1010	100	16	ug/L	1000		101	80-120			
Surrogate: 4-Fluorochlorobenzene	21.6			ug/L	20.0		108	80-150			
LCS Dup (B5K2505-BSD1)						Prepared: 11/25/15 Analyzed: 11/26/15					
Gasoline range organics	966	100	16	ug/L	1000		96.6	80-120	4.26	20	
Surrogate: 4-Fluorochlorobenzene	21.6			ug/L	20.0		108	80-150			

Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505279
Date Reported: 12/08/15

DISSOLVED METAL ANALYSIS - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0108 - EPA 200.7/3005A Digestion

Blank (B5L0108-BLK1)

Prepared & Analyzed: 12/01/15

Arsenic	< 0.010	0.010	0.0026	mg/L							
Barium	< 0.020	0.020	0.0022	mg/L							
Cadmium	< 0.0010	0.0010	0.000059	mg/L							
Chromium	< 0.010	0.010	0.0012	mg/L							
Lead	< 0.0050	0.0050	0.0012	mg/L							
Mercury	< 0.010	0.010	0.0023	mg/L							
Selenium	< 0.030	0.030	0.0073	mg/L							
Silver	< 0.0050	0.0050	0.00053	mg/L							

LCS (B5L0108-BS1)

Prepared & Analyzed: 12/01/15

Arsenic	0.429	0.010	0.0026	mg/L	0.399		108	80-120			
Barium	0.428	0.020	0.0022	mg/L	0.399		107	80-120			
Cadmium	0.449	0.0010	0.000059	mg/L	0.399		113	80-120			
Chromium	0.450	0.010	0.0012	mg/L	0.399		113	80-120			
Lead	0.447	0.0050	0.0012	mg/L	0.399		112	80-120			
Mercury	0.248	0.010	0.0023	mg/L	0.250		99.4	80-120			
Selenium	0.436	0.030	0.0073	mg/L	0.399		109	80-120			
Silver	0.0417	0.0050	0.00053	mg/L	0.0399		105	80-120			

LCS Dup (B5L0108-BSD1)

Prepared & Analyzed: 12/01/15

Arsenic	0.428	0.010	0.0026	mg/L	0.399		107	80-120	0.140	20	
Barium	0.432	0.020	0.0022	mg/L	0.399		108	80-120	0.838	20	
Cadmium	0.449	0.0010	0.000059	mg/L	0.399		113	80-120	0.0223	20	
Chromium	0.449	0.010	0.0012	mg/L	0.399		113	80-120	0.267	20	
Lead	0.449	0.0050	0.0012	mg/L	0.399		113	80-120	0.558	20	
Mercury	0.246	0.010	0.0023	mg/L	0.250		98.2	80-120	1.17	20	
Selenium	0.436	0.030	0.0073	mg/L	0.399		109	80-120	0.0917	20	
Silver	0.0414	0.0050	0.00053	mg/L	0.0399		104	80-120	0.722	20	

Matrix Spike (B5L0108-MS1)

Source: 1505279-02

Prepared & Analyzed: 12/01/15

Arsenic	0.431	0.010	0.0026	mg/L	0.399	<0.010	108	75-125			
Barium	0.466	0.020	0.0022	mg/L	0.399	0.0504	104	75-125			
Cadmium	0.426	0.0010	0.000059	mg/L	0.399	<0.0010	107	75-125			
Chromium	0.440	0.010	0.0012	mg/L	0.399	<0.010	110	75-125			
Lead	0.436	0.0050	0.0012	mg/L	0.399	0.0144	106	75-125			
Mercury	0.248	0.010	0.0023	mg/L	0.250	<0.010	96.3	75-125			
Selenium	0.474	0.030	0.0073	mg/L	0.399	<0.030	115	75-125			
Silver	0.0431	0.0050	0.00053	mg/L	0.0399	<0.0050	108	75-125			

Matrix Spike Dup (B5L0108-MSD1)

Source: 1505279-02

Prepared & Analyzed: 12/01/15

Arsenic	0.436	0.010	0.0026	mg/L	0.399	<0.010	109	75-125	1.18	20	
Barium	0.473	0.020	0.0022	mg/L	0.399	0.0504	106	75-125	1.51	20	

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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DISSOLVED METAL ANALYSIS - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0108 - EPA 200.7/3005A Digestion											
Matrix Spike Dup (B5L0108-MSD1)		Source: 1505279-02				Prepared & Analyzed: 12/01/15					
Cadmium	0.432	0.0010	0.000059	mg/L	0.399	<0.0010	108	75-125	1.35	20	
Chromium	0.444	0.010	0.0012	mg/L	0.399	<0.010	111	75-125	1.06	20	
Lead	0.444	0.0050	0.0012	mg/L	0.399	0.0144	108	75-125	1.64	20	
Mercury	0.254	0.010	0.0023	mg/L	0.250	<0.010	98.8	75-125	2.43	200	
Selenium	0.478	0.030	0.0073	mg/L	0.399	<0.030	116	75-125	0.736	20	
Silver	0.0435	0.0050	0.00053	mg/L	0.0399	<0.0050	109	75-125	0.924	20	

Barr Engineering Co.	Project: 34511010	
4700 W 77th St	Project Number: 34511010	Work Order #: 1505279
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/08/15

SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5K3004 - EPA 3510C (Sep Funnel)

Blank (B5K3004-BLK1)

Prepared: 11/30/15 Analyzed: 12/01/15

1,2,4-Trichlorobenzene	< 10	10	0.53	ug/L
1,2-Dichlorobenzene	< 10	10	0.47	ug/L
1,2-Diphenylhydrazine as Azobenzene	< 10	10	0.32	ug/L
1,3-Dichlorobenzene	< 10	10	0.43	ug/L
1,4-Dichlorobenzene	< 10	10	0.32	ug/L
2,3,4,6-Tetrachlorophenol	< 10	10	0.74	ug/L
2,4,5-Trichlorophenol	< 10	10	1.1	ug/L
2,4,6-Trichlorophenol	< 10	10	0.82	ug/L
2,4-Dichlorophenol	< 10	10	0.78	ug/L
2,4-Dimethylphenol	< 10	10	0.99	ug/L
2,4-Dinitrophenol	< 10	10	0.70	ug/L
2,4-Dinitrotoluene	< 10	10	0.44	ug/L
2,6-Dichlorophenol	< 10	10	0.93	ug/L
2,6-Dinitrotoluene	< 10	10	0.39	ug/L
2-Chloronaphthalene	< 10	10	0.38	ug/L
2-Chlorophenol	< 10	10	1.2	ug/L
2-Methylnaphthalene	< 10	10	0.70	ug/L
2-Methylphenol	< 10	10	1.4	ug/L
2-Nitroaniline	< 10	10	0.83	ug/L
2-Nitrophenol	< 10	10	0.86	ug/L
3&4-Methylphenol	< 10	10	1.5	ug/L
3,3'-Dichlorobenzidine	< 25	25	9.9	ug/L
3-Nitroaniline	< 10	10	2.0	ug/L
4,6-Dinitro-2-methylphenol	< 10	10	1.0	ug/L
4-Bromophenyl phenyl ether	< 10	10	0.34	ug/L
4-Chloro-3-methylphenol	< 10	10	0.68	ug/L
4-Chloroaniline	< 10	10	2.3	ug/L
4-Chlorophenyl phenyl ether	< 10	10	0.45	ug/L
4-Nitroaniline	< 10	10	1.2	ug/L
4-Nitrophenol	< 10	10	0.91	ug/L
Acenaphthene	< 10	10	0.41	ug/L
Acenaphthylene	< 10	10	0.38	ug/L
Aniline	< 10	10	1.3	ug/L
Anthracene	< 10	10	0.36	ug/L
Benzidine	< 100	100	8.2	ug/L
Benzo(a)anthracene	< 10	10	0.23	ug/L
Benzo(a)pyrene	< 10	10	0.34	ug/L
Benzo(b)fluoranthene	< 10	10	0.18	ug/L
Benzo(g,h,i)perylene	< 10	10	0.43	ug/L

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5K3004 - EPA 3510C (Sep Funnel)

Blank (B5K3004-BLK1)

Prepared: 11/30/15 Analyzed: 12/01/15

Benzo(k)fluoranthene	< 10	10	0.55	ug/L							
Benzoic acid	< 10	10	1.8	ug/L							
Benzyl alcohol	< 10	10	0.68	ug/L							
Bis(2-chloroethoxy)methane	< 10	10	0.41	ug/L							
Bis(2-chloroethyl)ether	< 10	10	0.59	ug/L							
Bis(2-chloroisopropyl)ether	< 10	10	0.47	ug/L							
Bis(2-ethylhexyl)phthalate	< 10	10	0.77	ug/L							
Butyl benzyl phthalate	< 10	10	0.67	ug/L							
Carbazole	< 10	10	0.42	ug/L							
Chrysene	< 10	10	0.34	ug/L							
Dibenz(a,h)anthracene	< 10	10	0.31	ug/L							
Dibenzofuran	< 10	10	0.77	ug/L							
Diethyl phthalate	< 10	10	0.42	ug/L							
Dimethyl phthalate	< 10	10	0.44	ug/L							
Di-n-butyl phthalate	< 10	10	0.42	ug/L							
Di-n-octyl phthalate	< 10	10	0.48	ug/L							
Fluoranthene	< 10	10	0.36	ug/L							
Fluorene	< 10	10	0.35	ug/L							
Hexachlorobenzene	< 10	10	0.30	ug/L							
Hexachlorobutadiene	< 10	10	0.37	ug/L							
Hexachlorocyclopentadiene	< 10	10	0.52	ug/L							
Hexachloroethane	< 10	10	0.61	ug/L							
Indeno (1,2,3-cd) pyrene	< 10	10	0.37	ug/L							
Isophorone	< 10	10	0.45	ug/L							
Naphthalene	< 10	10	0.33	ug/L							
Nitrobenzene	< 10	10	0.51	ug/L							
N-Nitrosodimethylamine	< 10	10	0.34	ug/L							
N-Nitrosodi-n-propylamine	< 10	10	0.47	ug/L							
N-Nitrosodiphenylamine	< 10	10	0.54	ug/L							
Pentachlorophenol	< 10	10	1.2	ug/L							
Phenanthrene	< 10	10	0.28	ug/L							
Phenol	< 10	10	1.2	ug/L							
Pyrene	< 10	10	0.49	ug/L							
Surrogate: 2,4,6-Tribromophenol	87.4			ug/L	100		87.4	30-122			
Surrogate: 2-Fluorobiphenyl	85.3			ug/L	100		85.3	39.2-104			
Surrogate: 2-Fluorophenol	61.6			ug/L	100		61.6	30-80.1			
Surrogate: Nitrobenzene-d5	79.5			ug/L	100		79.5	51.2-103			
Surrogate: Phenol-d6	56.1			ug/L	100		56.1	30-75.3			
Surrogate: Terphenyl-d14	89.3			ug/L	100		89.3	30-116			

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5K3004 - EPA 3510C (Sep Funnel)

LCS (B5K3004-BS1)

Prepared: 11/30/15 Analyzed: 12/03/15

1,2,4-Trichlorobenzene	39.4	10	0.53	ug/L	50.0		78.7	38-100			
1,4-Dichlorobenzene	37.7	10	0.32	ug/L	50.0		75.4	30-90			
2,4-Dinitrotoluene	43.9	10	0.44	ug/L	50.0		87.9	57-100			
2-Chlorophenol	37.9	10	1.2	ug/L	50.0		75.7	45-95			
4-Chloro-3-methylphenol	43.2	10	0.68	ug/L	50.0		86.5	52-100			
4-Nitrophenol	37.7	10	0.91	ug/L	50.0		75.4	30-100			
Anthracene	45.0	10	0.36	ug/L	50.0		89.9	60-100			
Benzo(a)anthracene	47.8	10	0.23	ug/L	50.0		95.7	64-100			
Benzo(a)pyrene	49.8	10	0.34	ug/L	50.0		99.5	60-100			
Chrysene	50.0	10	0.34	ug/L	50.0		100	60-100			
Fluoranthene	44.9	10	0.36	ug/L	50.0		89.8	63-100			
Fluorene	45.0	10	0.35	ug/L	50.0		90.0	59-100			
N-Nitrosodi-n-propylamine	43.5	10	0.47	ug/L	50.0		86.9	55-100			
Pentachlorophenol	46.1	10	1.2	ug/L	50.0		92.2	45-107			
Phenanthrene	45.3	10	0.28	ug/L	50.0		90.5	62-100			
Phenol	30.0	10	1.2	ug/L	50.0		59.9	30-80			
Surrogate: 2,4,6-Tribromophenol	69.0			ug/L	100		69.0	30-122			
Surrogate: 2-Fluorobiphenyl	64.5			ug/L	100		64.5	39.2-104			
Surrogate: 2-Fluorophenol	46.7			ug/L	100		46.7	30-80.1			
Surrogate: Nitrobenzene-d5	64.3			ug/L	100		64.3	51.2-103			
Surrogate: Phenol-d6	46.8			ug/L	100		46.8	30-75.3			
Surrogate: Terphenyl-d14	62.7			ug/L	100		62.7	30-116			

Matrix Spike (B5K3004-MS1)

Source: 1505301-01

Prepared: 11/30/15 Analyzed: 12/01/15

1,2,4-Trichlorobenzene	38.9	10	0.53	ug/L	50.0	<10	77.9	30-100			
1,4-Dichlorobenzene	36.9	10	0.32	ug/L	50.0	<10	73.7	30-90			
2,4-Dinitrotoluene	48.2	10	0.44	ug/L	50.0	<10	96.4	30-110			
2-Chlorophenol	36.5	10	1.2	ug/L	50.0	<10	73.0	30-100			
4-Chloro-3-methylphenol	43.9	10	0.68	ug/L	50.0	<10	87.8	30-113			
4-Nitrophenol	43.1	10	0.91	ug/L	50.0	<10	86.1	30-112			
Anthracene	47.6	10	0.36	ug/L	50.0	<10	91.5	30-119			
Benzo(a)anthracene	50.7	10	0.23	ug/L	50.0	<10	101	30-122			
Benzo(a)pyrene	49.4	10	0.34	ug/L	50.0	<10	98.7	30-118			
Chrysene	50.4	10	0.34	ug/L	50.0	<10	101	30-125			
Fluoranthene	55.7	10	0.36	ug/L	50.0	<10	103	30-119			
Fluorene	53.6	10	0.35	ug/L	50.0	<10	92.1	30-107			
N-Nitrosodi-n-propylamine	42.7	10	0.47	ug/L	50.0	<10	85.3	37-100			
Pentachlorophenol	43.6	10	1.2	ug/L	50.0	<10	87.2	30-130			
Phenanthrene	52.5	10	0.28	ug/L	50.0	<10	93.4	30-117			
Phenol	26.7	10	1.2	ug/L	50.0	<10	51.0	30-80			

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5K3004 - EPA 3510C (Sep Funnel)

Matrix Spike (B5K3004-MS1)

Source: 1505301-01

Prepared: 11/30/15 Analyzed: 12/01/15

Surrogate: 2,4,6-Tribromophenol	98.1			ug/L	100		98.1	30-122			
Surrogate: 2-Fluorobiphenyl	85.8			ug/L	100		85.8	39.2-104			
Surrogate: 2-Fluorophenol	57.0			ug/L	100		57.0	30-80.1			
Surrogate: Nitrobenzene-d5	79.8			ug/L	100		79.8	51.2-103			
Surrogate: Phenol-d6	50.6			ug/L	100		50.6	30-75.3			
Surrogate: Terphenyl-d14	76.1			ug/L	100		76.1	30-116			

Matrix Spike Dup (B5K3004-MSD1)

Source: 1505301-01

Prepared: 11/30/15 Analyzed: 12/01/15

1,2,4-Trichlorobenzene	37.7	10	0.53	ug/L	50.5	<10	74.6	30-100	3.30	20	
1,4-Dichlorobenzene	35.2	10	0.32	ug/L	50.5	<10	69.7	30-90	4.58	20	
2,4-Dinitrotoluene	45.7	10	0.44	ug/L	50.5	<10	90.4	30-110	5.43	20	
2-Chlorophenol	36.2	10	1.2	ug/L	50.5	<10	71.7	30-100	0.748	20	
4-Chloro-3-methylphenol	43.8	10	0.68	ug/L	50.5	<10	86.6	30-113	0.348	20	
4-Nitrophenol	44.4	10	0.91	ug/L	50.5	<10	87.9	30-112	2.97	34.3	
Anthracene	46.0	10	0.36	ug/L	50.5	<10	87.3	30-119	3.54	20	
Benzo(a)anthracene	48.7	10	0.23	ug/L	50.5	<10	96.4	30-122	4.16	20	
Benzo(a)pyrene	48.3	10	0.34	ug/L	50.5	<10	95.7	30-118	2.10	20	
Chrysene	48.6	10	0.34	ug/L	50.5	<10	96.2	30-125	3.71	20	
Fluoranthene	53.3	10	0.36	ug/L	50.5	<10	97.1	30-119	4.44	20	
Fluorene	52.0	10	0.35	ug/L	50.5	<10	88.1	30-107	2.92	20	
N-Nitrosodi-n-propylamine	41.4	10	0.47	ug/L	50.5	<10	82.0	37-100	2.94	20	
Pentachlorophenol	41.7	10	1.2	ug/L	50.5	<10	82.6	30-130	4.45	20	
Phenanthrene	50.4	10	0.28	ug/L	50.5	<10	88.2	30-117	4.24	20	
Phenol	28.4	10	1.2	ug/L	50.5	<10	53.7	30-80	5.93	31.9	
Surrogate: 2,4,6-Tribromophenol	92.3			ug/L	101		91.4	30-122			
Surrogate: 2-Fluorobiphenyl	84.2			ug/L	101		83.3	39.2-104			
Surrogate: 2-Fluorophenol	58.2			ug/L	101		57.6	30-80.1			
Surrogate: Nitrobenzene-d5	77.6			ug/L	101		76.8	51.2-103			
Surrogate: Phenol-d6	54.2			ug/L	101		53.6	30-75.3			
Surrogate: Terphenyl-d14	78.9			ug/L	101		78.1	30-116			

Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505279
Date Reported: 12/08/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0232 - EPA 5030 Water (Purge and Trap)

Blank (B5L0232-BLK1)

Prepared & Analyzed: 11/25/15

1,1,1,2-Tetrachloroethane	< 1.0	1.0	0.024	ug/L
1,1,1,1-Trichloroethane	< 1.0	1.0	0.069	ug/L
1,1,2,2-Tetrachloroethane	< 1.0	1.0	0.051	ug/L
1,1,2-Trichloroethane	< 1.0	1.0	0.10	ug/L
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	0.081	ug/L
1,1-Dichloroethane	< 1.0	1.0	0.050	ug/L
1,1-Dichloroethene	< 1.0	1.0	0.065	ug/L
1,1-Dichloropropene	< 1.0	1.0	0.15	ug/L
1,2,3-Trichlorobenzene	< 5.0	5.0	0.45	ug/L
1,2,3-Trichloropropane	< 2.5	2.5	0.056	ug/L
1,2,4-Trichlorobenzene	< 5.0	5.0	0.091	ug/L
1,2,4-Trimethylbenzene	< 1.0	1.0	0.054	ug/L
1,2-Dibromo-3-chloropropane	< 5.0	5.0	0.033	ug/L
1,2-Dibromoethane (EDB)	< 2.5	2.5	0.042	ug/L
1,2-Dichlorobenzene	< 1.0	1.0	0.052	ug/L
1,2-Dichloroethane	< 1.0	1.0	0.064	ug/L
1,2-Dichloropropane	< 1.0	1.0	0.034	ug/L
1,3,5-Trimethylbenzene	< 1.0	1.0	0.046	ug/L
1,3-Dichlorobenzene	< 1.0	1.0	0.068	ug/L
1,3-Dichloropropane	< 1.0	1.0	0.15	ug/L
1,4-Dichlorobenzene	< 1.0	1.0	0.047	ug/L
2,2-Dichloropropane	< 5.0	5.0	0.28	ug/L
2-Butanone	< 20	20	0.33	ug/L
2-Chlorotoluene	< 1.0	1.0	0.052	ug/L
4-Chlorotoluene	< 1.0	1.0	0.041	ug/L
Acetone	< 20	20	0.32	ug/L
Allyl chloride	< 5.0	5.0	0.078	ug/L
Benzene	< 1.0	1.0	0.034	ug/L
Bromobenzene	< 1.0	1.0	0.042	ug/L
Bromochloromethane	< 1.0	1.0	0.10	ug/L
Bromodichloromethane	< 1.0	1.0	0.042	ug/L
Bromoform	< 5.0	5.0	0.080	ug/L
Bromomethane	< 5.0	5.0	0.17	ug/L
Carbon tetrachloride	< 1.0	1.0	0.029	ug/L
Chlorobenzene	< 1.0	1.0	0.037	ug/L
Chloroethane	< 2.5	2.5	0.062	ug/L
Chloroform	< 1.0	1.0	0.056	ug/L
Chloromethane	< 2.5	2.5	0.062	ug/L
cis-1,2-Dichloroethene	< 1.0	1.0	0.097	ug/L

Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505279
Date Reported: 12/08/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0232 - EPA 5030 Water (Purge and Trap)

Blank (B5L0232-BLK1)

Prepared & Analyzed: 11/25/15

cis-1,3-Dichloropropene	< 1.0	1.0	0.041	ug/L							
Dibromochloromethane	< 2.5	2.5	0.070	ug/L							
Dibromomethane	< 2.5	2.5	0.088	ug/L							
Dichlorodifluoromethane	< 5.0	5.0	0.14	ug/L							
Dichlorofluoromethane	< 1.0	1.0	0.059	ug/L							
Ethyl ether	< 5.0	5.0	0.091	ug/L							
Ethylbenzene	< 1.0	1.0	0.033	ug/L							
Hexachlorobutadiene	< 10	10	0.19	ug/L							
Isopropylbenzene	< 1.0	1.0	0.037	ug/L							
m,p-Xylene	< 2.0	2.0	0.087	ug/L							
Methyl isobutyl ketone	< 5.0	5.0	0.17	ug/L							
Methyl tert-butyl ether	< 1.0	1.0	0.056	ug/L							
Methylene chloride	< 5.0	5.0	0.10	ug/L							
Naphthalene	< 5.0	5.0	0.032	ug/L							
n-Butylbenzene	< 2.5	2.5	0.028	ug/L							
n-Propylbenzene	< 1.0	1.0	0.040	ug/L							
o-Xylene	< 1.0	1.0	0.053	ug/L							
p-Isopropyltoluene	< 2.5	2.5	0.052	ug/L							
sec-Butylbenzene	< 1.0	1.0	0.055	ug/L							
Styrene	< 1.0	1.0	0.048	ug/L							
tert-Butylbenzene	< 1.0	1.0	0.028	ug/L							
Tetrachloroethene	< 1.0	1.0	0.035	ug/L							
Tetrahydrofuran	< 20	20	0.34	ug/L							
Toluene	< 1.0	1.0	0.064	ug/L							
trans-1,2-Dichloroethene	< 1.0	1.0	0.058	ug/L							
trans-1,3-Dichloropropene	< 1.0	1.0	0.067	ug/L							
Trichloroethene	< 1.0	1.0	0.096	ug/L							
Trichlorofluoromethane	< 1.0	1.0	0.26	ug/L							
Vinyl chloride	< 1.0	1.0	0.046	ug/L							
Surrogate: 4-Bromofluorobenzene	51.3			ug/L	56.0		91.6	80-121			
Surrogate: Dibromofluoromethane	54.6			ug/L	56.0		97.5	79.9-121			
Surrogate: Toluene-d8	54.0			ug/L	56.0		96.3	80-120			

LCS (B5L0232-BS1)

Prepared & Analyzed: 11/25/15

1,1,2,2-Tetrachloroethane	53.6	1.0	0.051	ug/L	50.0		107	80-121			
1,1-Dichloroethane	51.3	1.0	0.050	ug/L	50.0		103	80-125			
1,1-Dichloroethene	48.6	1.0	0.065	ug/L	50.0		97.1	80-125			
1,3,5-Trimethylbenzene	50.2	1.0	0.046	ug/L	50.0		100	75.4-125			
1,4-Dichlorobenzene	48.6	1.0	0.047	ug/L	50.0		97.2	75-125			
2-Chlorotoluene	50.0	1.0	0.052	ug/L	50.0		100	75.4-125			

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0232 - EPA 5030 Water (Purge and Trap)

LCS (B5L0232-BS1)

Prepared & Analyzed: 11/25/15

Benzene	50.1	1.0	0.034	ug/L	50.0		100	80-120			
Bromoform	49.9	5.0	0.080	ug/L	50.0		99.8	80-120			
Chlorobenzene	48.6	1.0	0.037	ug/L	50.0		97.3	80-120			
Chloroform	50.4	1.0	0.056	ug/L	50.0		101	80-123			
Ethylbenzene	48.3	1.0	0.033	ug/L	50.0		96.5	80-120			
n-Butylbenzene	50.1	2.5	0.028	ug/L	50.0		100	75-125			
n-Propylbenzene	50.3	1.0	0.040	ug/L	50.0		101	75.8-125			
Toluene	50.1	1.0	0.064	ug/L	50.0		100	80-120			
Trichloroethene	49.6	1.0	0.096	ug/L	50.0		99.2	80-120			
Vinyl chloride	45.0	1.0	0.046	ug/L	50.0		90.1	75-130			
Surrogate: 4-Bromofluorobenzene	52.4			ug/L	56.0		93.6	80-121			
Surrogate: Dibromofluoromethane	53.2			ug/L	56.0		95.0	79.9-121			
Surrogate: Toluene-d8	53.8			ug/L	56.0		96.1	80-120			

Matrix Spike (B5L0232-MS1)

Source: 1505279-01

Prepared & Analyzed: 11/25/15

1,1,2,2-Tetrachloroethane	56.6	1.0	0.051	ug/L	50.0	<1.0	113	76.8-125			
1,1-Dichloroethane	53.1	1.0	0.050	ug/L	50.0	<1.0	106	80-125			
1,1-Dichloroethene	50.7	1.0	0.065	ug/L	50.0	<1.0	101	80-125			
1,3,5-Trimethylbenzene	51.7	1.0	0.046	ug/L	50.0	<1.0	103	75-125			
1,4-Dichlorobenzene	49.9	1.0	0.047	ug/L	50.0	<1.0	99.8	75-125			
2-Chlorotoluene	51.6	1.0	0.052	ug/L	50.0	<1.0	103	75-125			
Benzene	53.3	1.0	0.034	ug/L	50.0	<1.0	107	80-120			
Bromoform	53.9	5.0	0.080	ug/L	50.0	<5.0	108	80-120			
Chlorobenzene	51.5	1.0	0.037	ug/L	50.0	<1.0	103	80-120			
Chloroform	52.8	1.0	0.056	ug/L	50.0	<1.0	106	79.8-125			
Ethylbenzene	51.4	1.0	0.033	ug/L	50.0	<1.0	103	80-120			
n-Butylbenzene	51.2	2.5	0.028	ug/L	50.0	<2.5	102	75-130			
n-Propylbenzene	52.2	1.0	0.040	ug/L	50.0	<1.0	104	75-125			
Toluene	52.7	1.0	0.064	ug/L	50.0	<1.0	105	80-120			
Trichloroethene	52.5	1.0	0.096	ug/L	50.0	<1.0	105	80-120			
Vinyl chloride	47.6	1.0	0.046	ug/L	50.0	<1.0	95.2	75-130			
Surrogate: 4-Bromofluorobenzene	54.7			ug/L	56.0		97.8	80-121			
Surrogate: Dibromofluoromethane	53.8			ug/L	56.0		96.1	79.9-121			
Surrogate: Toluene-d8	54.0			ug/L	56.0		96.4	80-120			

Matrix Spike Dup (B5L0232-MSD1)

Source: 1505279-01

Prepared & Analyzed: 11/25/15

1,1,2,2-Tetrachloroethane	56.7	1.0	0.051	ug/L	50.0	<1.0	113	76.8-125	0.146	20	
1,1-Dichloroethane	52.3	1.0	0.050	ug/L	50.0	<1.0	105	80-125	1.60	20	
1,1-Dichloroethene	49.4	1.0	0.065	ug/L	50.0	<1.0	98.9	80-125	2.44	20	
1,3,5-Trimethylbenzene	51.5	1.0	0.046	ug/L	50.0	<1.0	103	75-125	0.527	20	

Barr Engineering Co.
4700 W 77th St
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505279
Date Reported: 12/08/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0232 - EPA 5030 Water (Purge and Trap)											
Matrix Spike Dup (B5L0232-MSD1)		Source: 1505279-01				Prepared & Analyzed: 11/25/15					
1,4-Dichlorobenzene	48.8	1.0	0.047	ug/L	50.0	<1.0	97.5	75-125	2.35	20	
2-Chlorotoluene	51.0	1.0	0.052	ug/L	50.0	<1.0	102	75-125	1.20	20	
Benzene	51.5	1.0	0.034	ug/L	50.0	<1.0	103	80-120	3.37	20	
Bromoform	51.6	5.0	0.080	ug/L	50.0	<5.0	103	80-120	4.34	20	
Chlorobenzene	49.4	1.0	0.037	ug/L	50.0	<1.0	98.7	80-120	4.17	20	
Chloroform	51.4	1.0	0.056	ug/L	50.0	<1.0	103	79.8-125	2.73	20	
Ethylbenzene	49.2	1.0	0.033	ug/L	50.0	<1.0	98.4	80-120	4.41	20	
n-Butylbenzene	50.1	2.5	0.028	ug/L	50.0	<2.5	100	75-130	2.11	20	
n-Propylbenzene	52.3	1.0	0.040	ug/L	50.0	<1.0	105	75-125	0.132	20	
Toluene	51.5	1.0	0.064	ug/L	50.0	<1.0	103	80-120	2.36	20	
Trichloroethene	51.9	1.0	0.096	ug/L	50.0	<1.0	104	80-120	1.16	20	
Vinyl chloride	44.8	1.0	0.046	ug/L	50.0	<1.0	89.5	75-130	6.12	20	
Surrogate: 4-Bromofluorobenzene	53.3			ug/L	56.0		95.1	80-121			
Surrogate: Dibromofluoromethane	55.1			ug/L	56.0		98.4	79.9-121			
Surrogate: Toluene-d8	54.6			ug/L	56.0		97.6	80-120			

Barr Engineering Co. 4700 W 77th St Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505279 Date Reported: 12/08/15
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Notes and Definitions

T5 Laboratory not licensed for this parameter.
L1 Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
< Less than value listed
dry Sample results reported on a dry weight basis
NA Not applicable. The %RPD is not calculated from values less than the reporting limit.
MDL Method Detection Limit; Equivalent to the method LOD (Limit of Detection)
RL Reporting Limit
RPD Relative Percent Difference
LCS Laboratory Control Spike = Blank Spike (BS) = Laboratory Fortified Blank (LFB)
MS Matrix Spike = Laboratory Fortified Matrix (LFM)

Chain of Custody

BARR

4700 West 77th Street
Minneapolis, MN 55435-4803
(952) 832-2600

1505279

Project Number: 34511010

Project Name: 442 Ave Floodwall

Sample Origination State: ND (use two letter postal state abbreviation)

COC Number: N^o 45064

Location	Start Depth	Stop Depth	Depth Unit (m, ft or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix		Type	Number of Containers/Preservative										Total Number	Laboratory: <u>Legend</u>			
						Water	Soil		VOCs (HCL) #1	SVOCs (unpreserved) #2	Dissolved Metals (HNO3) #3	Total Metals (HNO3) #4	General Inorganics #5	Diesel Range Organics (HCL) #6	Metals (HNO3) #7	VOCs (Total MeOH) #8	ORO, BTEX (Total MeOH) #9	DRO (Total unpreserved) #10			SVOCs (unpreserved) #11	% Solids (plastic vial unpres.) #12	
1. B-1	10	20	ft	11/24/15	1500	X		X	3	1	1	1	3									9	STAT
2. B-3	80	180	ft	"	1545	X		X	3	1	1	1	3									9	
3. temp blank	N/A																					1	
4. HCL blank	N/A																					1	
5.																							
6.																							
7.																							
8.																							
9.																							
10.																							

Common Parameter/Container - Preservation Key

- #1 - Volatile Organics = BTEX, GRQ, TPH, 8260 Full List
- #2 - Semivolatile Organics = PAHs, PCP, Dioxins, 8270 Full List, Herbicide/Pesticide/PCBs
- #3 - General = pH, Chloride, Fluoride, Alkalinity, TSS, TDS, TS, Sulfate
- #4 - Nutrients = COD, TOC, Phenols, Ammonia Nitrogen, TKN

Relinquished by: <u>Am K</u>	On loc? <input checked="" type="checkbox"/>	Date: <u>11/24/15</u>	Time: <u>1700</u>	Received by: <u>[Signature]</u>	Date: <u>11/25/15</u>	Time: <u>930</u>
Relinquished by: <u>[Signature]</u>	On loc? <input checked="" type="checkbox"/>	Date: <u>11/24/15</u>	Time: <u>1700</u>	Received by: <u>[Signature]</u>	Date: <u>11/25/15</u>	Time: <u>930</u>
Samples Shipped VIA: <input type="checkbox"/> Air Freight <input checked="" type="checkbox"/> Federal Express <input type="checkbox"/> Sampler				Air Bill Number: <u>7402</u>		

Distribution: White-Original Accompanies Shipment to Lab; Yellow - Field Copy; Pink - Lab Coordinator

Data File: \\lts-target\targetdata\chem\FID5.i\151201.b\013.d

Page 2

Date : 01-DEC-2015 15:23

Client ID:

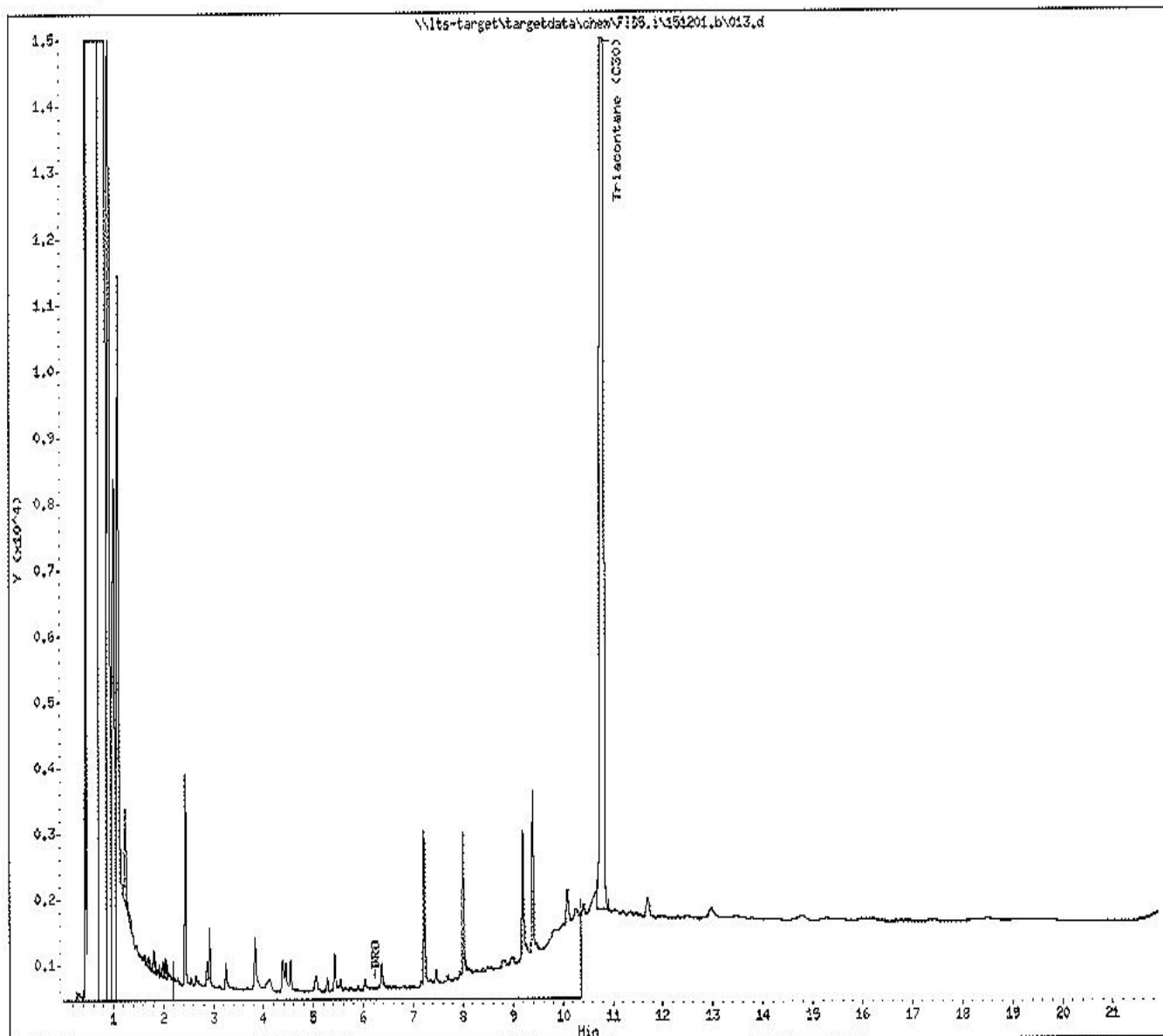
Instrument: FID5.i

Sample Info: 1505279-01

Operator: gp

Column phase:

Column diameter: 0.53



Data File: \\its-target\targetdata\chem\FID5,i\151201,b\017.d

Page 2

Date : 01-DEC-2015 17:11

Client ID:

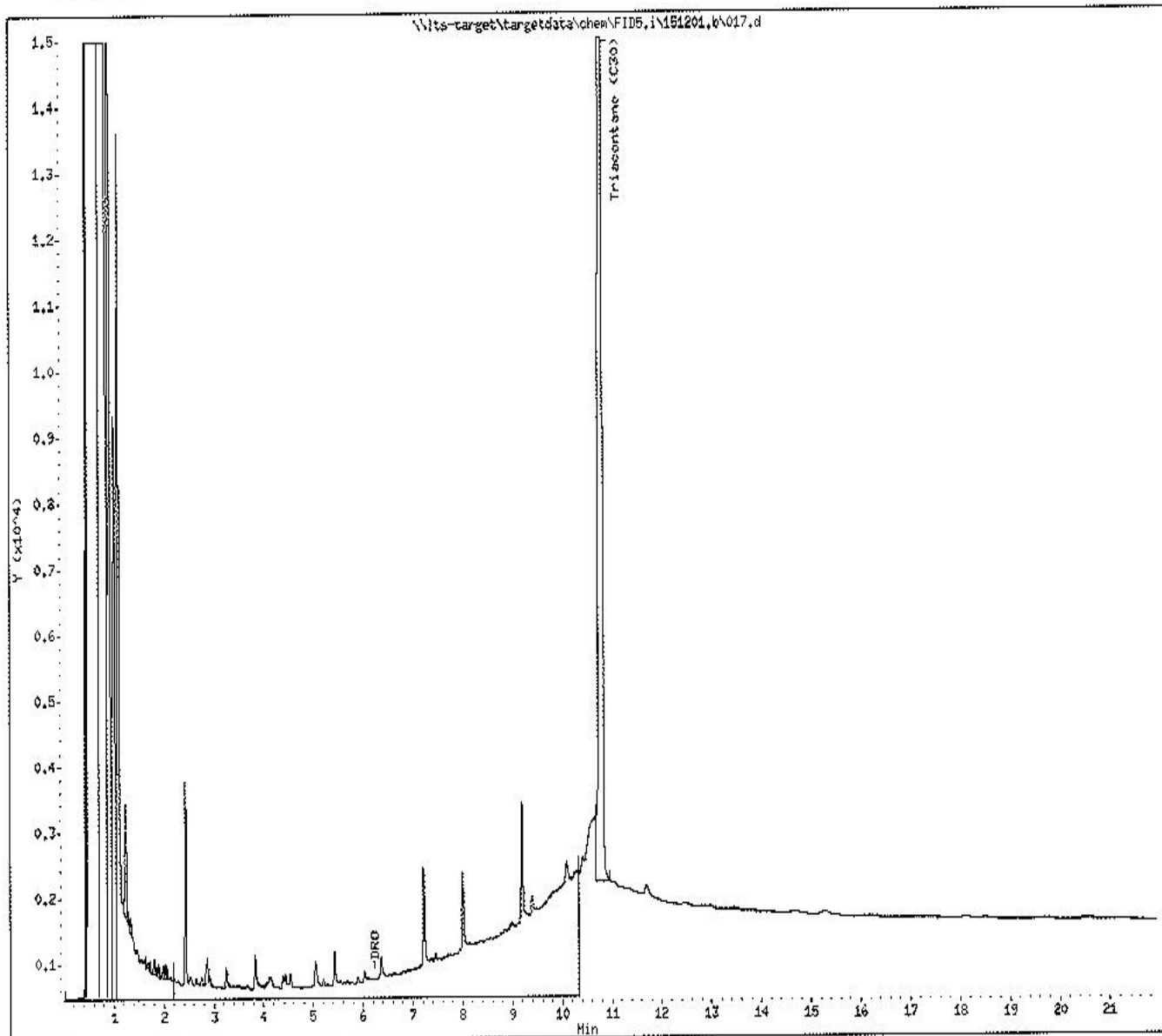
Instrument: FID5.i

Sample Info: 1505279-02

Operator: yp

Column phase:

Column diameter: 0.53





88 Empire Drive
St Paul, MN 55103
Tel: 651-642-1150
Fax: 651-642-1239

December 10, 2015

Ms. Andrea Nord
Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Work Order Number: 1505312
RE: 34511010

Enclosed are the results of analyses for samples received by the laboratory on 12/01/15. If you have any questions concerning this report, please feel free to contact me.

Results are not blank corrected unless noted within the report. Additionally, all QC results meet requirements unless noted.

All samples will be retained by Legend Technical Services, Inc., unless consumed in the analysis, at ambient conditions for 30 days from the date of this report and then discarded unless other arrangements are made. All samples were received in acceptable condition unless otherwise noted.

ND Accreditation #R-065

Prepared by,
LEGEND TECHNICAL SERVICES, INC

A handwritten signature in black ink, appearing to read "Bach Pham", is written over a horizontal line.

Bach Pham
Client Manager II
bpham@legend-group.com

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-4	1505312-01	Water	11/25/15 07:40	12/01/15 08:00
B-D	1505312-02	Water	11/25/15 08:10	12/01/15 08:00
B-2a	1505312-03	Water	11/25/15 08:40	12/01/15 08:00
Trip Blank	1505312-04	Water	11/25/15 00:00	12/01/15 08:00

Shipping Container Information

Default Cooler Temperature (°C): 3.7

Received on ice: Yes	Temperature blank was present	Received on ice pack: No
Received on melt water: No	Ambient: No	Acceptable (IH/ISO only): No
Custody seals: No		

Case Narrative:

An LCS/LCSD was prepared and analyzed for the 8270 batch B5L0201 instead of the method specified LCS/MS/MSD. Insufficient sample was received to meet method QC requirements.

Recovery for the 8270 surrogate phenol-d6 was below laboratory acceptance limits in sample B-2a. All surrogates were within acceptance limits in the batch B5L0201 method blank, LCS, and LCSD.

The DRO chromatograms are attached for all samples.

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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8015D DRO
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4 (1505312-01) Water Sampled: 11/25/15 07:40 Received: 12/01/15 8:00										
Diesel Range Organics	110	100	26	ug/L	1	B5L0202	12/02/15	12/02/15	EPA 8015D	
Surrogate: Triacontane (C-30)	93.4			70-130 %		"	"	"	"	
B-D (1505312-02) Water Sampled: 11/25/15 08:10 Received: 12/01/15 8:00										
Diesel Range Organics	190	100	26	ug/L	1	B5L0202	12/02/15	12/02/15	EPA 8015D	
Surrogate: Triacontane (C-30)	99.7			70-130 %		"	"	"	"	
B-2a (1505312-03) Water Sampled: 11/25/15 08:40 Received: 12/01/15 8:00										
Diesel Range Organics	130	100	26	ug/L	1	B5L0202	12/02/15	12/02/15	EPA 8015D	
Surrogate: Triacontane (C-30)	84.3			70-130 %		"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505312
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

8015D GRO
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4 (1505312-01) Water Sampled: 11/25/15 07:40 Received: 12/01/15 8:00										
Gasoline range organics	<100	100	16	ug/L	1	B5L0228	12/02/15	12/03/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	131			80-150 %		"	"	"	"	
B-D (1505312-02) Water Sampled: 11/25/15 08:10 Received: 12/01/15 8:00										
Gasoline range organics	<100	100	16	ug/L	1	B5L0228	12/02/15	12/02/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	103			80-150 %		"	"	"	"	
B-2a (1505312-03) Water Sampled: 11/25/15 08:40 Received: 12/01/15 8:00										
Gasoline range organics	<100	100	16	ug/L	1	B5L0228	12/02/15	12/02/15	EPA 8015D	
Surrogate: 4-Fluorochlorobenzene	103			80-150 %		"	"	"	"	

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505312
Date Reported: 12/10/15

DISSOLVED METAL ANALYSIS
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4 (1505312-01) Water Sampled: 11/25/15 07:40 Received: 12/01/15 8:00										
Arsenic	<0.010	0.010	0.0026	mg/L	1	B5L0127	12/01/15	12/03/15	EPA 6010C (Dissolved)	
Barium	0.15	0.020	0.0022	mg/L	1	"	"	"	"	
Cadmium	<0.0010	0.0010	0.000059	mg/L	1	"	"	"	"	
Chromium	<0.010	0.010	0.0012	mg/L	1	"	"	"	"	
Lead	<0.0050	0.0050	0.0012	mg/L	1	"	"	"	"	
Mercury	<0.010	0.010	0.0023	mg/L	1	"	"	"	"	
Selenium	<0.030	0.030	0.0073	mg/L	1	"	"	"	"	
Silver	<0.0050	0.0050	0.00053	mg/L	1	"	"	"	"	
B-D (1505312-02) Water Sampled: 11/25/15 08:10 Received: 12/01/15 8:00										
Arsenic	<0.010	0.010	0.0026	mg/L	1	B5L0127	12/01/15	12/03/15	EPA 6010C (Dissolved)	
Barium	0.097	0.020	0.0022	mg/L	1	"	"	"	"	
Cadmium	<0.0010	0.0010	0.000059	mg/L	1	"	"	"	"	
Chromium	<0.010	0.010	0.0012	mg/L	1	"	"	"	"	
Lead	0.0068	0.0050	0.0012	mg/L	1	"	"	"	"	
Mercury	<0.010	0.010	0.0023	mg/L	1	"	"	"	"	
Selenium	<0.030	0.030	0.0073	mg/L	1	"	"	"	"	
Silver	<0.0050	0.0050	0.00053	mg/L	1	"	"	"	"	
B-2a (1505312-03) Water Sampled: 11/25/15 08:40 Received: 12/01/15 8:00										
Arsenic	<0.010	0.010	0.0026	mg/L	1	B5L0127	12/01/15	12/03/15	EPA 6010C (Dissolved)	
Barium	0.087	0.020	0.0022	mg/L	1	"	"	"	"	
Cadmium	<0.0010	0.0010	0.000059	mg/L	1	"	"	"	"	
Chromium	<0.010	0.010	0.0012	mg/L	1	"	"	"	"	
Lead	0.012	0.0050	0.0012	mg/L	1	"	"	"	"	
Mercury	<0.010	0.010	0.0023	mg/L	1	"	"	"	"	
Selenium	<0.030	0.030	0.0073	mg/L	1	"	"	"	"	
Silver	<0.0050	0.0050	0.00053	mg/L	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4 (1505312-01) Water Sampled: 11/25/15 07:40 Received: 12/01/15 8:00										
1,2,4-Trichlorobenzene	<10	10	0.53	ug/L	1	B5L0201	12/02/15	12/03/15	EPA 8270D	
1,2-Dichlorobenzene	<10	10	0.47	ug/L	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<10	10	0.32	ug/L	1	"	"	"	"	
1,3-Dichlorobenzene	<10	10	0.43	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<10	10	0.32	ug/L	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<10	10	0.74	ug/L	1	"	"	"	"	
2,4,5-Trichlorophenol	<10	10	1.1	ug/L	1	"	"	"	"	
2,4,6-Trichlorophenol	<10	10	0.82	ug/L	1	"	"	"	"	
2,4-Dichlorophenol	<10	10	0.78	ug/L	1	"	"	"	"	
2,4-Dimethylphenol	<10	10	0.99	ug/L	1	"	"	"	"	
2,4-Dinitrophenol	<10	10	0.70	ug/L	1	"	"	"	"	
2,4-Dinitrotoluene	<10	10	0.44	ug/L	1	"	"	"	"	
2,6-Dichlorophenol	<10	10	0.93	ug/L	1	"	"	"	"	
2,6-Dinitrotoluene	<10	10	0.39	ug/L	1	"	"	"	"	
2-Chloronaphthalene	<10	10	0.38	ug/L	1	"	"	"	"	
2-Chlorophenol	<10	10	1.2	ug/L	1	"	"	"	"	
2-Methylnaphthalene	<10	10	0.70	ug/L	1	"	"	"	"	
2-Methylphenol	<10	10	1.4	ug/L	1	"	"	"	"	
2-Nitroaniline	<10	10	0.83	ug/L	1	"	"	"	"	
2-Nitrophenol	<10	10	0.86	ug/L	1	"	"	"	"	
3&4-Methylphenol	<10	10	1.5	ug/L	1	"	"	"	"	
3,3'-Dichlorobenzidine	<25	25	9.9	ug/L	1	"	"	"	"	
3-Nitroaniline	<10	10	2.0	ug/L	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<10	10	1.0	ug/L	1	"	"	"	"	
4-Bromophenyl phenyl ether	<10	10	0.34	ug/L	1	"	"	"	"	
4-Chloro-3-methylphenol	<10	10	0.68	ug/L	1	"	"	"	"	
4-Chloroaniline	<10	10	2.3	ug/L	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<10	10	0.45	ug/L	1	"	"	"	"	
4-Nitroaniline	<10	10	1.2	ug/L	1	"	"	"	"	
4-Nitrophenol	<10	10	0.91	ug/L	1	"	"	"	"	
Acenaphthene	<10	10	0.41	ug/L	1	"	"	"	"	
Acenaphthylene	<10	10	0.38	ug/L	1	"	"	"	"	
Aniline	<10	10	1.3	ug/L	1	"	"	"	"	
Anthracene	<10	10	0.36	ug/L	1	"	"	"	"	
Benzidine	<100	100	8.2	ug/L	1	"	"	"	"	
Benzo(a)anthracene	<10	10	0.23	ug/L	1	"	"	"	"	
Benzo(a)pyrene	<10	10	0.34	ug/L	1	"	"	"	"	
Benzo(b)fluoranthene	<10	10	0.18	ug/L	1	"	"	"	"	
Benzo(g,h,i)perylene	<10	10	0.43	ug/L	1	"	"	"	"	

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505312
Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4 (1505312-01) Water Sampled: 11/25/15 07:40 Received: 12/01/15 8:00										
Benzo(k)fluoranthene	<10	10	0.55	ug/L	1	B5L0201	12/02/15	12/03/15	EPA 8270D	
Benzoic acid	<10	10	1.8	ug/L	1	"	"	"	"	
Benzyl alcohol	<10	10	0.68	ug/L	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<10	10	0.41	ug/L	1	"	"	"	"	
Bis(2-chloroethyl)ether	<10	10	0.59	ug/L	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<10	10	0.47	ug/L	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<10	10	0.77	ug/L	1	"	"	"	"	
Butyl benzyl phthalate	<10	10	0.67	ug/L	1	"	"	"	"	
Carbazole	<10	10	0.42	ug/L	1	"	"	"	"	
Chrysene	<10	10	0.34	ug/L	1	"	"	"	"	
Dibenz(a,h)anthracene	<10	10	0.31	ug/L	1	"	"	"	"	
Dibenzofuran	<10	10	0.77	ug/L	1	"	"	"	"	
Diethyl phthalate	<10	10	0.42	ug/L	1	"	"	"	"	
Dimethyl phthalate	<10	10	0.44	ug/L	1	"	"	"	"	
Di-n-butyl phthalate	<10	10	0.42	ug/L	1	"	"	"	"	
Di-n-octyl phthalate	<10	10	0.48	ug/L	1	"	"	"	"	
Fluoranthene	<10	10	0.36	ug/L	1	"	"	"	"	
Fluorene	<10	10	0.35	ug/L	1	"	"	"	"	
Hexachlorobenzene	<10	10	0.30	ug/L	1	"	"	"	"	
Hexachlorobutadiene	<10	10	0.37	ug/L	1	"	"	"	"	
Hexachlorocyclopentadiene	<10	10	0.52	ug/L	1	"	"	"	"	
Hexachloroethane	<10	10	0.61	ug/L	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<10	10	0.37	ug/L	1	"	"	"	"	
Isophorone	<10	10	0.45	ug/L	1	"	"	"	"	
Naphthalene	<10	10	0.33	ug/L	1	"	"	"	"	
Nitrobenzene	<10	10	0.51	ug/L	1	"	"	"	"	
N-Nitrosodimethylamine	<10	10	0.34	ug/L	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<10	10	0.47	ug/L	1	"	"	"	"	
N-Nitrosodiphenylamine	<10	10	0.54	ug/L	1	"	"	"	"	
Pentachlorophenol	<10	10	1.2	ug/L	1	"	"	"	"	
Phenanthrene	<10	10	0.28	ug/L	1	"	"	"	"	
Phenol	<10	10	1.2	ug/L	1	"	"	"	"	
Pyrene	<10	10	0.49	ug/L	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	70.7			30-122 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	78.1			39.2-104 %		"	"	"	"	
Surrogate: 2-Fluorophenol	48.1			30-80.1 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	76.1			51.2-103 %		"	"	"	"	
Surrogate: Phenol-d6	44.3			30-75.3 %		"	"	"	"	
Surrogate: Terphenyl-d14	82.4			30-116 %		"	"	"	"	

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505312
Date Reported: 12/10/15

SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-D (1505312-02) Water Sampled: 11/25/15 08:10 Received: 12/01/15 8:00										
1,2,4-Trichlorobenzene	<9.4	9.4	0.50	ug/L	1	B5L0201	12/02/15	12/03/15	EPA 8270D	
1,2-Dichlorobenzene	<9.4	9.4	0.44	ug/L	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<9.4	9.4	0.30	ug/L	1	"	"	"	"	
1,3-Dichlorobenzene	<9.4	9.4	0.41	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<9.4	9.4	0.30	ug/L	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<9.4	9.4	0.70	ug/L	1	"	"	"	"	
2,4,5-Trichlorophenol	<9.4	9.4	1.0	ug/L	1	"	"	"	"	
2,4,6-Trichlorophenol	<9.4	9.4	0.77	ug/L	1	"	"	"	"	
2,4-Dichlorophenol	<9.4	9.4	0.74	ug/L	1	"	"	"	"	
2,4-Dimethylphenol	<9.4	9.4	0.93	ug/L	1	"	"	"	"	
2,4-Dinitrophenol	<9.4	9.4	0.66	ug/L	1	"	"	"	"	
2,4-Dinitrotoluene	<9.4	9.4	0.42	ug/L	1	"	"	"	"	
2,6-Dichlorophenol	<9.4	9.4	0.88	ug/L	1	"	"	"	"	
2,6-Dinitrotoluene	<9.4	9.4	0.37	ug/L	1	"	"	"	"	
2-Chloronaphthalene	<9.4	9.4	0.36	ug/L	1	"	"	"	"	
2-Chlorophenol	<9.4	9.4	1.1	ug/L	1	"	"	"	"	
2-Methylnaphthalene	<9.4	9.4	0.66	ug/L	1	"	"	"	"	
2-Methylphenol	<9.4	9.4	1.3	ug/L	1	"	"	"	"	
2-Nitroaniline	<9.4	9.4	0.78	ug/L	1	"	"	"	"	
2-Nitrophenol	<9.4	9.4	0.81	ug/L	1	"	"	"	"	
3&4-Methylphenol	<9.4	9.4	1.4	ug/L	1	"	"	"	"	
3,3'-Dichlorobenzidine	<24	24	9.3	ug/L	1	"	"	"	"	
3-Nitroaniline	<9.4	9.4	1.9	ug/L	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<9.4	9.4	0.94	ug/L	1	"	"	"	"	
4-Bromophenyl phenyl ether	<9.4	9.4	0.32	ug/L	1	"	"	"	"	
4-Chloro-3-methylphenol	<9.4	9.4	0.64	ug/L	1	"	"	"	"	
4-Chloroaniline	<9.4	9.4	2.2	ug/L	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<9.4	9.4	0.42	ug/L	1	"	"	"	"	
4-Nitroaniline	<9.4	9.4	1.1	ug/L	1	"	"	"	"	
4-Nitrophenol	<9.4	9.4	0.86	ug/L	1	"	"	"	"	
Acenaphthene	<9.4	9.4	0.39	ug/L	1	"	"	"	"	
Acenaphthylene	<9.4	9.4	0.36	ug/L	1	"	"	"	"	
Aniline	<9.4	9.4	1.2	ug/L	1	"	"	"	"	
Anthracene	<9.4	9.4	0.34	ug/L	1	"	"	"	"	
Benzidine	<9.4	9.4	7.7	ug/L	1	"	"	"	"	
Benzo(a)anthracene	<9.4	9.4	0.22	ug/L	1	"	"	"	"	
Benzo(a)pyrene	<9.4	9.4	0.32	ug/L	1	"	"	"	"	
Benzo(b)fluoranthene	<9.4	9.4	0.17	ug/L	1	"	"	"	"	
Benzo(g,h,i)perylene	<9.4	9.4	0.41	ug/L	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-D (1505312-02) Water Sampled: 11/25/15 08:10 Received: 12/01/15 8:00										
Benzo(k)fluoranthene	<9.4	9.4	0.52	ug/L	1	B5L0201	12/02/15	12/03/15	EPA 8270D	
Benzoic acid	<9.4	9.4	1.7	ug/L	1	"	"	"	"	
Benzyl alcohol	<9.4	9.4	0.64	ug/L	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<9.4	9.4	0.39	ug/L	1	"	"	"	"	
Bis(2-chloroethyl)ether	<9.4	9.4	0.56	ug/L	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<9.4	9.4	0.44	ug/L	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<9.4	9.4	0.73	ug/L	1	"	"	"	"	
Butyl benzyl phthalate	<9.4	9.4	0.63	ug/L	1	"	"	"	"	
Carbazole	<9.4	9.4	0.40	ug/L	1	"	"	"	"	
Chrysene	<9.4	9.4	0.32	ug/L	1	"	"	"	"	
Dibenz(a,h)anthracene	<9.4	9.4	0.29	ug/L	1	"	"	"	"	
Dibenzofuran	<9.4	9.4	0.73	ug/L	1	"	"	"	"	
Diethyl phthalate	<9.4	9.4	0.40	ug/L	1	"	"	"	"	
Dimethyl phthalate	<9.4	9.4	0.42	ug/L	1	"	"	"	"	
Di-n-butyl phthalate	<9.4	9.4	0.40	ug/L	1	"	"	"	"	
Di-n-octyl phthalate	<9.4	9.4	0.45	ug/L	1	"	"	"	"	
Fluoranthene	<9.4	9.4	0.34	ug/L	1	"	"	"	"	
Fluorene	<9.4	9.4	0.33	ug/L	1	"	"	"	"	
Hexachlorobenzene	<9.4	9.4	0.28	ug/L	1	"	"	"	"	
Hexachlorobutadiene	<9.4	9.4	0.35	ug/L	1	"	"	"	"	
Hexachlorocyclopentadiene	<9.4	9.4	0.49	ug/L	1	"	"	"	"	
Hexachloroethane	<9.4	9.4	0.58	ug/L	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<9.4	9.4	0.35	ug/L	1	"	"	"	"	
Isophorone	<9.4	9.4	0.42	ug/L	1	"	"	"	"	
Naphthalene	<9.4	9.4	0.31	ug/L	1	"	"	"	"	
Nitrobenzene	<9.4	9.4	0.48	ug/L	1	"	"	"	"	
N-Nitrosodimethylamine	<9.4	9.4	0.32	ug/L	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<9.4	9.4	0.44	ug/L	1	"	"	"	"	
N-Nitrosodiphenylamine	<9.4	9.4	0.51	ug/L	1	"	"	"	"	
Pentachlorophenol	<9.4	9.4	1.1	ug/L	1	"	"	"	"	
Phenanthrene	<9.4	9.4	0.26	ug/L	1	"	"	"	"	
Phenol	<9.4	9.4	1.1	ug/L	1	"	"	"	"	
Pyrene	<9.4	9.4	0.46	ug/L	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	44.6			30-122 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	65.5			39.2-104 %		"	"	"	"	
Surrogate: 2-Fluorophenol	36.4			30-80.1 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	68.1			51.2-103 %		"	"	"	"	
Surrogate: Phenol-d6	34.3			30-75.3 %		"	"	"	"	
Surrogate: Terphenyl-d14	52.2			30-116 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a (1505312-03) Water Sampled: 11/25/15 08:40 Received: 12/01/15 8:00										
1,2,4-Trichlorobenzene	<9.3	9.3	0.50	ug/L	1	B5L0201	12/02/15	12/03/15	EPA 8270D	
1,2-Dichlorobenzene	<9.3	9.3	0.44	ug/L	1	"	"	"	"	
1,2-Diphenylhydrazine as Azobenzene	<9.3	9.3	0.30	ug/L	1	"	"	"	"	
1,3-Dichlorobenzene	<9.3	9.3	0.40	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<9.3	9.3	0.30	ug/L	1	"	"	"	"	
2,3,4,6-Tetrachlorophenol	<9.3	9.3	0.69	ug/L	1	"	"	"	"	
2,4,5-Trichlorophenol	<9.3	9.3	1.0	ug/L	1	"	"	"	"	
2,4,6-Trichlorophenol	<9.3	9.3	0.77	ug/L	1	"	"	"	"	
2,4-Dichlorophenol	<9.3	9.3	0.73	ug/L	1	"	"	"	"	
2,4-Dimethylphenol	<9.3	9.3	0.93	ug/L	1	"	"	"	"	
2,4-Dinitrophenol	<9.3	9.3	0.65	ug/L	1	"	"	"	"	
2,4-Dinitrotoluene	<9.3	9.3	0.41	ug/L	1	"	"	"	"	
2,6-Dichlorophenol	<9.3	9.3	0.87	ug/L	1	"	"	"	"	
2,6-Dinitrotoluene	<9.3	9.3	0.36	ug/L	1	"	"	"	"	
2-Chloronaphthalene	<9.3	9.3	0.36	ug/L	1	"	"	"	"	
2-Chlorophenol	<9.3	9.3	1.1	ug/L	1	"	"	"	"	
2-Methylnaphthalene	<9.3	9.3	0.65	ug/L	1	"	"	"	"	
2-Methylphenol	<9.3	9.3	1.3	ug/L	1	"	"	"	"	
2-Nitroaniline	<9.3	9.3	0.78	ug/L	1	"	"	"	"	
2-Nitrophenol	<9.3	9.3	0.80	ug/L	1	"	"	"	"	
3&4-Methylphenol	<9.3	9.3	1.4	ug/L	1	"	"	"	"	
3,3'-Dichlorobenzidine	<23	23	9.3	ug/L	1	"	"	"	"	
3-Nitroaniline	<9.3	9.3	1.9	ug/L	1	"	"	"	"	
4,6-Dinitro-2-methylphenol	<9.3	9.3	0.93	ug/L	1	"	"	"	"	
4-Bromophenyl phenyl ether	<9.3	9.3	0.32	ug/L	1	"	"	"	"	
4-Chloro-3-methylphenol	<9.3	9.3	0.64	ug/L	1	"	"	"	"	
4-Chloroaniline	<9.3	9.3	2.1	ug/L	1	"	"	"	"	
4-Chlorophenyl phenyl ether	<9.3	9.3	0.42	ug/L	1	"	"	"	"	
4-Nitroaniline	<9.3	9.3	1.1	ug/L	1	"	"	"	"	
4-Nitrophenol	<9.3	9.3	0.85	ug/L	1	"	"	"	"	
Acenaphthene	<9.3	9.3	0.38	ug/L	1	"	"	"	"	
Acenaphthylene	<9.3	9.3	0.36	ug/L	1	"	"	"	"	
Aniline	<9.3	9.3	1.2	ug/L	1	"	"	"	"	
Anthracene	<9.3	9.3	0.34	ug/L	1	"	"	"	"	
Benzidine	<9.3	9.3	7.7	ug/L	1	"	"	"	"	
Benzo(a)anthracene	<9.3	9.3	0.21	ug/L	1	"	"	"	"	
Benzo(a)pyrene	<9.3	9.3	0.32	ug/L	1	"	"	"	"	
Benzo(b)fluoranthene	<9.3	9.3	0.17	ug/L	1	"	"	"	"	
Benzo(g,h,i)perylene	<9.3	9.3	0.40	ug/L	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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SVOC 8270D
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a (1505312-03) Water Sampled: 11/25/15 08:40 Received: 12/01/15 8:00										
Benzo(k)fluoranthene	<9.3	9.3	0.51	ug/L	1	B5L0201	12/02/15	12/03/15	EPA 8270D	
Benzoic acid	<9.3	9.3	1.7	ug/L	1	"	"	"	"	
Benzyl alcohol	<9.3	9.3	0.64	ug/L	1	"	"	"	"	
Bis(2-chloroethoxy)methane	<9.3	9.3	0.38	ug/L	1	"	"	"	"	
Bis(2-chloroethyl)ether	<9.3	9.3	0.55	ug/L	1	"	"	"	"	
Bis(2-chloroisopropyl)ether	<9.3	9.3	0.44	ug/L	1	"	"	"	"	
Bis(2-ethylhexyl)phthalate	<9.3	9.3	0.72	ug/L	1	"	"	"	"	
Butyl benzyl phthalate	<9.3	9.3	0.63	ug/L	1	"	"	"	"	
Carbazole	<9.3	9.3	0.39	ug/L	1	"	"	"	"	
Chrysene	<9.3	9.3	0.32	ug/L	1	"	"	"	"	
Dibenz(a,h)anthracene	<9.3	9.3	0.29	ug/L	1	"	"	"	"	
Dibenzofuran	<9.3	9.3	0.72	ug/L	1	"	"	"	"	
Diethyl phthalate	<9.3	9.3	0.39	ug/L	1	"	"	"	"	
Dimethyl phthalate	<9.3	9.3	0.41	ug/L	1	"	"	"	"	
Di-n-butyl phthalate	<9.3	9.3	0.39	ug/L	1	"	"	"	"	
Di-n-octyl phthalate	<9.3	9.3	0.45	ug/L	1	"	"	"	"	
Fluoranthene	<9.3	9.3	0.34	ug/L	1	"	"	"	"	
Fluorene	<9.3	9.3	0.33	ug/L	1	"	"	"	"	
Hexachlorobenzene	<9.3	9.3	0.28	ug/L	1	"	"	"	"	
Hexachlorobutadiene	<9.3	9.3	0.35	ug/L	1	"	"	"	"	
Hexachlorocyclopentadiene	<9.3	9.3	0.49	ug/L	1	"	"	"	"	
Hexachloroethane	<9.3	9.3	0.57	ug/L	1	"	"	"	"	
Indeno (1,2,3-cd) pyrene	<9.3	9.3	0.35	ug/L	1	"	"	"	"	
Isophorone	<9.3	9.3	0.42	ug/L	1	"	"	"	"	
Naphthalene	<9.3	9.3	0.31	ug/L	1	"	"	"	"	
Nitrobenzene	<9.3	9.3	0.48	ug/L	1	"	"	"	"	
N-Nitrosodimethylamine	<9.3	9.3	0.32	ug/L	1	"	"	"	"	
N-Nitrosodi-n-propylamine	<9.3	9.3	0.44	ug/L	1	"	"	"	"	
N-Nitrosodiphenylamine	<9.3	9.3	0.50	ug/L	1	"	"	"	"	
Pentachlorophenol	<9.3	9.3	1.1	ug/L	1	"	"	"	"	
Phenanthrene	<9.3	9.3	0.26	ug/L	1	"	"	"	"	
Phenol	<9.3	9.3	1.1	ug/L	1	"	"	"	"	
Pyrene	<9.3	9.3	0.46	ug/L	1	"	"	"	"	
Surrogate: 2,4,6-Tribromophenol	33.5			30-122 %		"	"	"	"	
Surrogate: 2-Fluorobiphenyl	55.6			39.2-104 %		"	"	"	"	
Surrogate: 2-Fluorophenol	30.8			30-80.1 %		"	"	"	"	
Surrogate: Nitrobenzene-d5	62.3			51.2-103 %		"	"	"	"	
Surrogate: Phenol-d6	29.0			30-75.3 %		"	"	"	"	S-GC
Surrogate: Terphenyl-d14	43.2			30-116 %		"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4 (1505312-01) Water Sampled: 11/25/15 07:40 Received: 12/01/15 8:00										
1,1,1,2-Tetrachloroethane	<1.0	1.0	0.024	ug/L	1	B5L0814	12/04/15	12/04/15	EPA 8260B	
1,1,1-Trichloroethane	<1.0	1.0	0.069	ug/L	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<1.0	1.0	0.051	ug/L	1	"	"	"	"	
1,1,2-Trichloroethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<1.0	1.0	0.081	ug/L	1	"	"	"	"	T5
1,1-Dichloroethane	<1.0	1.0	0.050	ug/L	1	"	"	"	"	
1,1-Dichloroethene	<1.0	1.0	0.065	ug/L	1	"	"	"	"	
1,1-Dichloropropene	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,2,3-Trichlorobenzene	<5.0	5.0	0.45	ug/L	1	"	"	"	"	
1,2,3-Trichloropropane	<2.5	2.5	0.056	ug/L	1	"	"	"	"	
1,2,4-Trichlorobenzene	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
1,2,4-Trimethylbenzene	<1.0	1.0	0.054	ug/L	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<5.0	5.0	0.033	ug/L	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<2.5	2.5	0.042	ug/L	1	"	"	"	"	
1,2-Dichlorobenzene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
1,2-Dichloroethane	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
1,2-Dichloropropane	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
1,3,5-Trimethylbenzene	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
1,3-Dichlorobenzene	<1.0	1.0	0.068	ug/L	1	"	"	"	"	
1,3-Dichloropropane	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<1.0	1.0	0.047	ug/L	1	"	"	"	"	
2,2-Dichloropropane	<5.0	5.0	0.28	ug/L	1	"	"	"	"	
2-Butanone	<20	20	0.33	ug/L	1	"	"	"	"	
2-Chlorotoluene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
4-Chlorotoluene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Acetone	<20	20	0.32	ug/L	1	"	"	"	"	
Allyl chloride	<5.0	5.0	0.078	ug/L	1	"	"	"	"	
Benzene	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
Bromobenzene	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromochloromethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
Bromodichloromethane	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromoform	<5.0	5.0	0.080	ug/L	1	"	"	"	"	
Bromomethane	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Carbon tetrachloride	<1.0	1.0	0.029	ug/L	1	"	"	"	"	
Chlorobenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
Chloroethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
Chloroform	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Chloromethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
cis-1,2-Dichloroethene	<1.0	1.0	0.097	ug/L	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-4 (1505312-01) Water Sampled: 11/25/15 07:40 Received: 12/01/15 8:00										
cis-1,3-Dichloropropene	<1.0	1.0	0.041	ug/L	1	B5L0814	12/04/15	12/04/15	EPA 8260B	
Dibromochloromethane	<2.5	2.5	0.070	ug/L	1	"	"	"	"	
Dibromomethane	<2.5	2.5	0.088	ug/L	1	"	"	"	"	
Dichlorodifluoromethane	<5.0	5.0	0.14	ug/L	1	"	"	"	"	
Dichlorofluoromethane	<1.0	1.0	0.059	ug/L	1	"	"	"	"	T5
Ethyl ether	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
Ethylbenzene	<1.0	1.0	0.033	ug/L	1	"	"	"	"	
Hexachlorobutadiene	<10	10	0.19	ug/L	1	"	"	"	"	
Isopropylbenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
m,p-Xylene	<2.0	2.0	0.087	ug/L	1	"	"	"	"	
Methyl isobutyl ketone	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Methyl tert-butyl ether	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Methylene chloride	<5.0	5.0	0.10	ug/L	1	"	"	"	"	
Naphthalene	<5.0	5.0	0.032	ug/L	1	"	"	"	"	
n-Butylbenzene	<2.5	2.5	0.028	ug/L	1	"	"	"	"	
n-Propylbenzene	<1.0	1.0	0.040	ug/L	1	"	"	"	"	
o-Xylene	<1.0	1.0	0.053	ug/L	1	"	"	"	"	
p-Isopropyltoluene	<2.5	2.5	0.052	ug/L	1	"	"	"	"	
sec-Butylbenzene	<1.0	1.0	0.055	ug/L	1	"	"	"	"	
Styrene	<1.0	1.0	0.048	ug/L	1	"	"	"	"	
tert-Butylbenzene	<1.0	1.0	0.028	ug/L	1	"	"	"	"	
Tetrachloroethene	<1.0	1.0	0.035	ug/L	1	"	"	"	"	
Tetrahydrofuran	<20	20	0.34	ug/L	1	"	"	"	"	T5
Toluene	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.058	ug/L	1	"	"	"	"	
trans-1,3-Dichloropropene	<1.0	1.0	0.067	ug/L	1	"	"	"	"	
Trichloroethene	<1.0	1.0	0.096	ug/L	1	"	"	"	"	
Trichlorofluoromethane	<1.0	1.0	0.26	ug/L	1	"	"	"	"	
Vinyl chloride	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	88.0			80-121 %		"	"	"	"	
Surrogate: Dibromofluoromethane	93.8			79.9-121 %		"	"	"	"	
Surrogate: Toluene-d8	93.1			80-120 %		"	"	"	"	

B-D (1505312-02) Water Sampled: 11/25/15 08:10 Received: 12/01/15 8:00										
1,1,1,2-Tetrachloroethane	<1.0	1.0	0.024	ug/L	1	B5L0814	12/04/15	12/04/15	EPA 8260B	
1,1,1-Trichloroethane	<1.0	1.0	0.069	ug/L	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<1.0	1.0	0.051	ug/L	1	"	"	"	"	
1,1,2-Trichloroethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<1.0	1.0	0.081	ug/L	1	"	"	"	"	T5
1,1-Dichloroethane	<1.0	1.0	0.050	ug/L	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-D (1505312-02) Water Sampled: 11/25/15 08:10 Received: 12/01/15 8:00										
1,1-Dichloroethene	<1.0	1.0	0.065	ug/L	1	B5L0814	12/04/15	12/04/15	EPA 8260B	
1,1-Dichloropropene	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,2,3-Trichlorobenzene	<5.0	5.0	0.45	ug/L	1	"	"	"	"	
1,2,3-Trichloropropane	<2.5	2.5	0.056	ug/L	1	"	"	"	"	
1,2,4-Trichlorobenzene	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
1,2,4-Trimethylbenzene	<1.0	1.0	0.054	ug/L	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<5.0	5.0	0.033	ug/L	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<2.5	2.5	0.042	ug/L	1	"	"	"	"	
1,2-Dichlorobenzene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
1,2-Dichloroethane	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
1,2-Dichloropropane	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
1,3,5-Trimethylbenzene	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
1,3-Dichlorobenzene	<1.0	1.0	0.068	ug/L	1	"	"	"	"	
1,3-Dichloropropane	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<1.0	1.0	0.047	ug/L	1	"	"	"	"	
2,2-Dichloropropane	<5.0	5.0	0.28	ug/L	1	"	"	"	"	
2-Butanone	<20	20	0.33	ug/L	1	"	"	"	"	
2-Chlorotoluene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
4-Chlorotoluene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Acetone	<20	20	0.32	ug/L	1	"	"	"	"	
Allyl chloride	<5.0	5.0	0.078	ug/L	1	"	"	"	"	
Benzene	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
Bromobenzene	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromochloromethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
Bromodichloromethane	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromoform	<5.0	5.0	0.080	ug/L	1	"	"	"	"	
Bromomethane	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Carbon tetrachloride	<1.0	1.0	0.029	ug/L	1	"	"	"	"	
Chlorobenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
Chloroethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
Chloroform	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Chloromethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
cis-1,2-Dichloroethene	<1.0	1.0	0.097	ug/L	1	"	"	"	"	
cis-1,3-Dichloropropene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Dibromochloromethane	<2.5	2.5	0.070	ug/L	1	"	"	"	"	
Dibromomethane	<2.5	2.5	0.088	ug/L	1	"	"	"	"	
Dichlorodifluoromethane	<5.0	5.0	0.14	ug/L	1	"	"	"	"	
Dichlorofluoromethane	<1.0	1.0	0.059	ug/L	1	"	"	"	"	T5
Ethyl ether	<5.0	5.0	0.091	ug/L	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-D (1505312-02) Water Sampled: 11/25/15 08:10 Received: 12/01/15 8:00										
Ethylbenzene	<1.0	1.0	0.033	ug/L	1	B5L0814	12/04/15	12/04/15	EPA 8260B	
Hexachlorobutadiene	<10	10	0.19	ug/L	1	"	"	"	"	
Isopropylbenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
m,p-Xylene	<2.0	2.0	0.087	ug/L	1	"	"	"	"	
Methyl isobutyl ketone	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Methyl tert-butyl ether	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Methylene chloride	<5.0	5.0	0.10	ug/L	1	"	"	"	"	
Naphthalene	<5.0	5.0	0.032	ug/L	1	"	"	"	"	
n-Butylbenzene	<2.5	2.5	0.028	ug/L	1	"	"	"	"	
n-Propylbenzene	<1.0	1.0	0.040	ug/L	1	"	"	"	"	
o-Xylene	<1.0	1.0	0.053	ug/L	1	"	"	"	"	
p-Isopropyltoluene	<2.5	2.5	0.052	ug/L	1	"	"	"	"	
sec-Butylbenzene	<1.0	1.0	0.055	ug/L	1	"	"	"	"	
Styrene	<1.0	1.0	0.048	ug/L	1	"	"	"	"	
tert-Butylbenzene	<1.0	1.0	0.028	ug/L	1	"	"	"	"	
Tetrachloroethene	<1.0	1.0	0.035	ug/L	1	"	"	"	"	
Tetrahydrofuran	<20	20	0.34	ug/L	1	"	"	"	"	T5
Toluene	1.0	1.0	0.064	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.058	ug/L	1	"	"	"	"	
trans-1,3-Dichloropropene	<1.0	1.0	0.067	ug/L	1	"	"	"	"	
Trichloroethene	<1.0	1.0	0.096	ug/L	1	"	"	"	"	
Trichlorofluoromethane	<1.0	1.0	0.26	ug/L	1	"	"	"	"	
Vinyl chloride	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	89.0			80-121 %		"	"	"	"	
Surrogate: Dibromofluoromethane	91.0			79.9-121 %		"	"	"	"	
Surrogate: Toluene-d8	92.4			80-120 %		"	"	"	"	

B-2a (1505312-03) Water Sampled: 11/25/15 08:40 Received: 12/01/15 8:00										
1,1,1,2-Tetrachloroethane	<1.0	1.0	0.024	ug/L	1	B5L0814	12/04/15	12/04/15	EPA 8260B	
1,1,1-Trichloroethane	<1.0	1.0	0.069	ug/L	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<1.0	1.0	0.051	ug/L	1	"	"	"	"	
1,1,2-Trichloroethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<1.0	1.0	0.081	ug/L	1	"	"	"	"	T5
1,1-Dichloroethane	<1.0	1.0	0.050	ug/L	1	"	"	"	"	
1,1-Dichloroethene	<1.0	1.0	0.065	ug/L	1	"	"	"	"	
1,1-Dichloropropene	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,2,3-Trichlorobenzene	<5.0	5.0	0.45	ug/L	1	"	"	"	"	
1,2,3-Trichloropropane	<2.5	2.5	0.056	ug/L	1	"	"	"	"	
1,2,4-Trichlorobenzene	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
1,2,4-Trimethylbenzene	<1.0	1.0	0.054	ug/L	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a (1505312-03) Water Sampled: 11/25/15 08:40 Received: 12/01/15 8:00										
1,2-Dibromo-3-chloropropane	<5.0	5.0	0.033	ug/L	1	B5L0814	12/04/15	12/04/15	EPA 8260B	
1,2-Dibromoethane (EDB)	<2.5	2.5	0.042	ug/L	1	"	"	"	"	
1,2-Dichlorobenzene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
1,2-Dichloroethane	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
1,2-Dichloropropane	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
1,3,5-Trimethylbenzene	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
1,3-Dichlorobenzene	<1.0	1.0	0.068	ug/L	1	"	"	"	"	
1,3-Dichloropropane	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<1.0	1.0	0.047	ug/L	1	"	"	"	"	
2,2-Dichloropropane	<5.0	5.0	0.28	ug/L	1	"	"	"	"	
2-Butanone	<20	20	0.33	ug/L	1	"	"	"	"	
2-Chlorotoluene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
4-Chlorotoluene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Acetone	<20	20	0.32	ug/L	1	"	"	"	"	
Allyl chloride	<5.0	5.0	0.078	ug/L	1	"	"	"	"	
Benzene	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
Bromobenzene	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromochloromethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
Bromodichloromethane	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromoform	<5.0	5.0	0.080	ug/L	1	"	"	"	"	
Bromomethane	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Carbon tetrachloride	<1.0	1.0	0.029	ug/L	1	"	"	"	"	
Chlorobenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
Chloroethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
Chloroform	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Chloromethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
cis-1,2-Dichloroethene	<1.0	1.0	0.097	ug/L	1	"	"	"	"	
cis-1,3-Dichloropropene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Dibromochloromethane	<2.5	2.5	0.070	ug/L	1	"	"	"	"	
Dibromomethane	<2.5	2.5	0.088	ug/L	1	"	"	"	"	
Dichlorodifluoromethane	<5.0	5.0	0.14	ug/L	1	"	"	"	"	
Dichlorofluoromethane	<1.0	1.0	0.059	ug/L	1	"	"	"	"	T5
Ethyl ether	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
Ethylbenzene	<1.0	1.0	0.033	ug/L	1	"	"	"	"	
Hexachlorobutadiene	<10	10	0.19	ug/L	1	"	"	"	"	
Isopropylbenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
m,p-Xylene	<2.0	2.0	0.087	ug/L	1	"	"	"	"	
Methyl isobutyl ketone	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Methyl tert-butyl ether	<1.0	1.0	0.056	ug/L	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B-2a (1505312-03) Water Sampled: 11/25/15 08:40 Received: 12/01/15 8:00										
Methylene chloride	<5.0	5.0	0.10	ug/L	1	B5L0814	12/04/15	12/04/15	EPA 8260B	
Naphthalene	<5.0	5.0	0.032	ug/L	1	"	"	"	"	
n-Butylbenzene	<2.5	2.5	0.028	ug/L	1	"	"	"	"	
n-Propylbenzene	<1.0	1.0	0.040	ug/L	1	"	"	"	"	
o-Xylene	<1.0	1.0	0.053	ug/L	1	"	"	"	"	
p-Isopropyltoluene	<2.5	2.5	0.052	ug/L	1	"	"	"	"	
sec-Butylbenzene	<1.0	1.0	0.055	ug/L	1	"	"	"	"	
Styrene	<1.0	1.0	0.048	ug/L	1	"	"	"	"	
tert-Butylbenzene	<1.0	1.0	0.028	ug/L	1	"	"	"	"	
Tetrachloroethene	<1.0	1.0	0.035	ug/L	1	"	"	"	"	
Tetrahydrofuran	<20	20	0.34	ug/L	1	"	"	"	"	T5
Toluene	1.1	1.0	0.064	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.058	ug/L	1	"	"	"	"	
trans-1,3-Dichloropropene	<1.0	1.0	0.067	ug/L	1	"	"	"	"	
Trichloroethene	<1.0	1.0	0.096	ug/L	1	"	"	"	"	
Trichlorofluoromethane	<1.0	1.0	0.26	ug/L	1	"	"	"	"	
Vinyl chloride	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	89.1			80-121 %		"	"	"	"	
Surrogate: Dibromofluoromethane	93.3			79.9-121 %		"	"	"	"	
Surrogate: Toluene-d8	94.2			80-120 %		"	"	"	"	

Trip Blank (1505312-04) Water Sampled: 11/25/15 00:00 Received: 12/01/15 8:00

1,1,1,2-Tetrachloroethane	<1.0	1.0	0.024	ug/L	1	B5L0814	12/04/15	12/04/15	EPA 8260B	
1,1,1-Trichloroethane	<1.0	1.0	0.069	ug/L	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	<1.0	1.0	0.051	ug/L	1	"	"	"	"	
1,1,2-Trichloroethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	<1.0	1.0	0.081	ug/L	1	"	"	"	"	T5
1,1-Dichloroethane	<1.0	1.0	0.050	ug/L	1	"	"	"	"	
1,1-Dichloroethene	<1.0	1.0	0.065	ug/L	1	"	"	"	"	
1,1-Dichloropropene	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,2,3-Trichlorobenzene	<5.0	5.0	0.45	ug/L	1	"	"	"	"	
1,2,3-Trichloropropane	<2.5	2.5	0.056	ug/L	1	"	"	"	"	
1,2,4-Trichlorobenzene	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
1,2,4-Trimethylbenzene	<1.0	1.0	0.054	ug/L	1	"	"	"	"	
1,2-Dibromo-3-chloropropane	<5.0	5.0	0.033	ug/L	1	"	"	"	"	
1,2-Dibromoethane (EDB)	<2.5	2.5	0.042	ug/L	1	"	"	"	"	
1,2-Dichlorobenzene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
1,2-Dichloroethane	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
1,2-Dichloropropane	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
1,3,5-Trimethylbenzene	<1.0	1.0	0.046	ug/L	1	"	"	"	"	

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505312
Date Reported: 12/10/15

VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trip Blank (1505312-04) Water Sampled: 11/25/15 00:00 Received: 12/01/15 8:00										
1,3-Dichlorobenzene	<1.0	1.0	0.068	ug/L	1	B5L0814	12/04/15	12/04/15	EPA 8260B	
1,3-Dichloropropane	<1.0	1.0	0.15	ug/L	1	"	"	"	"	
1,4-Dichlorobenzene	<1.0	1.0	0.047	ug/L	1	"	"	"	"	
2,2-Dichloropropane	<5.0	5.0	0.28	ug/L	1	"	"	"	"	
2-Butanone	<20	20	0.33	ug/L	1	"	"	"	"	
2-Chlorotoluene	<1.0	1.0	0.052	ug/L	1	"	"	"	"	
4-Chlorotoluene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Acetone	<20	20	0.32	ug/L	1	"	"	"	"	
Allyl chloride	<5.0	5.0	0.078	ug/L	1	"	"	"	"	
Benzene	<1.0	1.0	0.034	ug/L	1	"	"	"	"	
Bromobenzene	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromochloromethane	<1.0	1.0	0.10	ug/L	1	"	"	"	"	
Bromodichloromethane	<1.0	1.0	0.042	ug/L	1	"	"	"	"	
Bromoform	<5.0	5.0	0.080	ug/L	1	"	"	"	"	
Bromomethane	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Carbon tetrachloride	<1.0	1.0	0.029	ug/L	1	"	"	"	"	
Chlorobenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
Chloroethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
Chloroform	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Chloromethane	<2.5	2.5	0.062	ug/L	1	"	"	"	"	
cis-1,2-Dichloroethene	<1.0	1.0	0.097	ug/L	1	"	"	"	"	
cis-1,3-Dichloropropene	<1.0	1.0	0.041	ug/L	1	"	"	"	"	
Dibromochloromethane	<2.5	2.5	0.070	ug/L	1	"	"	"	"	
Dibromomethane	<2.5	2.5	0.088	ug/L	1	"	"	"	"	
Dichlorodifluoromethane	<5.0	5.0	0.14	ug/L	1	"	"	"	"	
Dichlorofluoromethane	<1.0	1.0	0.059	ug/L	1	"	"	"	"	T5
Ethyl ether	<5.0	5.0	0.091	ug/L	1	"	"	"	"	
Ethylbenzene	<1.0	1.0	0.033	ug/L	1	"	"	"	"	
Hexachlorobutadiene	<10	10	0.19	ug/L	1	"	"	"	"	
Isopropylbenzene	<1.0	1.0	0.037	ug/L	1	"	"	"	"	
m,p-Xylene	<2.0	2.0	0.087	ug/L	1	"	"	"	"	
Methyl isobutyl ketone	<5.0	5.0	0.17	ug/L	1	"	"	"	"	
Methyl tert-butyl ether	<1.0	1.0	0.056	ug/L	1	"	"	"	"	
Methylene chloride	<5.0	5.0	0.10	ug/L	1	"	"	"	"	
Naphthalene	<5.0	5.0	0.032	ug/L	1	"	"	"	"	
n-Butylbenzene	<2.5	2.5	0.028	ug/L	1	"	"	"	"	
n-Propylbenzene	<1.0	1.0	0.040	ug/L	1	"	"	"	"	
o-Xylene	<1.0	1.0	0.053	ug/L	1	"	"	"	"	
p-Isopropyltoluene	<2.5	2.5	0.052	ug/L	1	"	"	"	"	

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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VOC 8260B
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trip Blank (1505312-04) Water Sampled: 11/25/15 00:00 Received: 12/01/15 8:00										
sec-Butylbenzene	<1.0	1.0	0.055	ug/L	1	B5L0814	12/04/15	12/04/15	EPA 8260B	
Styrene	<1.0	1.0	0.048	ug/L	1	"	"	"	"	
tert-Butylbenzene	<1.0	1.0	0.028	ug/L	1	"	"	"	"	
Tetrachloroethene	<1.0	1.0	0.035	ug/L	1	"	"	"	"	
Tetrahydrofuran	<20	20	0.34	ug/L	1	"	"	"	"	T5
Toluene	<1.0	1.0	0.064	ug/L	1	"	"	"	"	
trans-1,2-Dichloroethene	<1.0	1.0	0.058	ug/L	1	"	"	"	"	
trans-1,3-Dichloropropene	<1.0	1.0	0.067	ug/L	1	"	"	"	"	
Trichloroethene	<1.0	1.0	0.096	ug/L	1	"	"	"	"	
Trichlorofluoromethane	<1.0	1.0	0.26	ug/L	1	"	"	"	"	
Vinyl chloride	<1.0	1.0	0.046	ug/L	1	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	87.8			80-121 %		"	"	"	"	
Surrogate: Dibromofluoromethane	92.3			79.9-121 %		"	"	"	"	
Surrogate: Toluene-d8	94.1			80-120 %		"	"	"	"	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505312
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

8015D DRO - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0202 - EPA 3510C (Sep Funnel)											
Blank (B5L0202-BLK1)						Prepared & Analyzed: 12/02/15					
Diesel Range Organics	< 100	100	26	ug/L							
Surrogate: Triacontane (C-30)	402			ug/L	400		100	70-130			
LCS (B5L0202-BS1)						Prepared & Analyzed: 12/02/15					
Diesel Range Organics	1580	100	26	ug/L	1600		98.7	70-130			
Surrogate: Triacontane (C-30)	412			ug/L	400		103	70-130			
LCS Dup (B5L0202-BSD1)						Prepared & Analyzed: 12/02/15					
Diesel Range Organics	1580	100	26	ug/L	1600		98.8	70-130	0.0833	20	
Surrogate: Triacontane (C-30)	413			ug/L	400		103	70-130			
Matrix Spike (B5L0202-MS1)						Source: 1505312-01 Prepared & Analyzed: 12/02/15					
Diesel Range Organics	1750	100	26	ug/L	1630	109	101	70-130			
Surrogate: Triacontane (C-30)	420			ug/L	408		103	70-130			

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505312
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

8015D GRO - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0228 - EPA 5030 Water (Purge and Trap)											
Blank (B5L0228-BLK1)						Prepared & Analyzed: 12/02/15					
Gasoline range organics	< 100	100	16	ug/L							
Surrogate: 4-Fluorochlorobenzene	20.4			ug/L	20.0		102	80-150			
LCS (B5L0228-BS1)						Prepared & Analyzed: 12/02/15					
Gasoline range organics	1050	100	16	ug/L	1000		105	80-120			
Surrogate: 4-Fluorochlorobenzene	22.2			ug/L	20.0		111	80-150			
LCS Dup (B5L0228-BSD1)						Prepared: 12/02/15		Analyzed: 12/03/15			
Gasoline range organics	1060	100	16	ug/L	1000		106	80-120	0.885	20	
Surrogate: 4-Fluorochlorobenzene	22.7			ug/L	20.0		114	80-150			
Duplicate (B5L0228-DUP1)						Source: 1505329-01		Prepared: 12/02/15		Analyzed: 12/03/15	
Gasoline range organics	44.8	100	16	ug/L		<100			NA	20	
Surrogate: 4-Fluorochlorobenzene	20.5			ug/L	20.0		102	80-150			
Matrix Spike (B5L0228-MS1)						Source: 1505312-01		Prepared: 12/02/15		Analyzed: 12/03/15	
Gasoline range organics	1020	100	16	ug/L	1000	<100	97.6	70-130			
Surrogate: 4-Fluorochlorobenzene	22.1			ug/L	20.0		111	80-150			
Matrix Spike Dup (B5L0228-MSD1)						Source: 1505312-01		Prepared: 12/02/15		Analyzed: 12/03/15	
Gasoline range organics	1020	100	16	ug/L	1000	<100	96.9	70-130	0.606	20	
Surrogate: 4-Fluorochlorobenzene	22.5			ug/L	20.0		113	80-150			

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505312
Date Reported: 12/10/15

DISSOLVED METAL ANALYSIS - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0127 - EPA 200.7/3005A Digestion

Blank (B5L0127-BLK1)

Prepared: 12/01/15 Analyzed: 12/03/15

Arsenic	< 0.010	0.010	0.0026	mg/L							
Barium	< 0.020	0.020	0.0022	mg/L							
Cadmium	< 0.0010	0.0010	0.000059	mg/L							
Chromium	< 0.010	0.010	0.0012	mg/L							
Lead	< 0.0050	0.0050	0.0012	mg/L							
Mercury	< 0.010	0.010	0.0023	mg/L							
Selenium	< 0.030	0.030	0.0073	mg/L							
Silver	< 0.0050	0.0050	0.00053	mg/L							

LCS (B5L0127-BS1)

Prepared: 12/01/15 Analyzed: 12/03/15

Arsenic	0.410	0.010	0.0026	mg/L	0.399		103	80-120			
Barium	0.422	0.020	0.0022	mg/L	0.399		106	80-120			
Cadmium	0.434	0.0010	0.000059	mg/L	0.399		109	80-120			
Chromium	0.420	0.010	0.0012	mg/L	0.399		105	80-120			
Lead	0.422	0.0050	0.0012	mg/L	0.399		106	80-120			
Mercury	0.237	0.010	0.0023	mg/L	0.250		94.8	80-120			
Selenium	0.420	0.030	0.0073	mg/L	0.399		105	80-120			
Silver	0.0398	0.0050	0.00053	mg/L	0.0399		99.7	80-120			

LCS Dup (B5L0127-BSD1)

Prepared: 12/01/15 Analyzed: 12/03/15

Arsenic	0.402	0.010	0.0026	mg/L	0.399		101	80-120	1.97	20	
Barium	0.419	0.020	0.0022	mg/L	0.399		105	80-120	0.713	20	
Cadmium	0.432	0.0010	0.000059	mg/L	0.399		108	80-120	0.462	20	
Chromium	0.418	0.010	0.0012	mg/L	0.399		105	80-120	0.477	20	
Lead	0.428	0.0050	0.0012	mg/L	0.399		107	80-120	1.41	20	
Mercury	0.251	0.010	0.0023	mg/L	0.250		100	80-120	5.74	20	
Selenium	0.421	0.030	0.0073	mg/L	0.399		106	80-120	0.238	20	
Silver	0.0392	0.0050	0.00053	mg/L	0.0399		98.2	80-120	1.52	20	

Matrix Spike (B5L0127-MS1)

Source: 1505312-01

Prepared: 12/01/15 Analyzed: 12/03/15

Arsenic	0.403	0.010	0.0026	mg/L	0.399	<0.010	101	75-125			
Barium	0.563	0.020	0.0022	mg/L	0.399	0.151	103	75-125			
Cadmium	0.425	0.0010	0.000059	mg/L	0.399	<0.0010	107	75-125			
Chromium	0.426	0.010	0.0012	mg/L	0.399	<0.010	106	75-125			
Lead	0.417	0.0050	0.0012	mg/L	0.399	<0.0050	104	75-125			
Mercury	0.205	0.010	0.0023	mg/L	0.250	<0.010	82.0	75-125			
Selenium	0.426	0.030	0.0073	mg/L	0.399	<0.030	107	75-125			
Silver	0.0390	0.0050	0.00053	mg/L	0.0399	<0.0050	97.7	75-125			

Matrix Spike Dup (B5L0127-MSD1)

Source: 1505312-01

Prepared: 12/01/15 Analyzed: 12/03/15

Arsenic	0.393	0.010	0.0026	mg/L	0.399	<0.010	98.5	75-125	2.51	20	
Barium	0.560	0.020	0.0022	mg/L	0.399	0.151	103	75-125	0.534	20	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505312
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

DISSOLVED METAL ANALYSIS - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0127 - EPA 200.7/3005A Digestion											
Matrix Spike Dup (B5L0127-MSD1)		Source: 1505312-01				Prepared: 12/01/15 Analyzed: 12/03/15					
Cadmium	0.422	0.0010	0.000059	mg/L	0.399	<0.0010	106	75-125	0.708	20	
Chromium	0.424	0.010	0.0012	mg/L	0.399	<0.010	105	75-125	0.471	20	
Lead	0.421	0.0050	0.0012	mg/L	0.399	<0.0050	105	75-125	0.955	20	
Mercury	0.194	0.010	0.0023	mg/L	0.250	<0.010	77.6	75-125	5.51	200	
Selenium	0.431	0.030	0.0073	mg/L	0.399	<0.030	108	75-125	1.17	20	
Silver	0.0384	0.0050	0.00053	mg/L	0.0399	<0.0050	96.2	75-125	1.55	20	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505312
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0201 - EPA 3510C (Sep Funnel)

Blank (B5L0201-BLK1)

Prepared: 12/02/15 Analyzed: 12/03/15

1,2,4-Trichlorobenzene	< 10	10	0.53	ug/L
1,2-Dichlorobenzene	< 10	10	0.47	ug/L
1,2-Diphenylhydrazine as Azobenzene	< 10	10	0.32	ug/L
1,3-Dichlorobenzene	< 10	10	0.43	ug/L
1,4-Dichlorobenzene	< 10	10	0.32	ug/L
2,3,4,6-Tetrachlorophenol	< 10	10	0.74	ug/L
2,4,5-Trichlorophenol	< 10	10	1.1	ug/L
2,4,6-Trichlorophenol	< 10	10	0.82	ug/L
2,4-Dichlorophenol	< 10	10	0.78	ug/L
2,4-Dimethylphenol	< 10	10	0.99	ug/L
2,4-Dinitrophenol	< 10	10	0.70	ug/L
2,4-Dinitrotoluene	< 10	10	0.44	ug/L
2,6-Dichlorophenol	< 10	10	0.93	ug/L
2,6-Dinitrotoluene	< 10	10	0.39	ug/L
2-Chloronaphthalene	< 10	10	0.38	ug/L
2-Chlorophenol	< 10	10	1.2	ug/L
2-Methylnaphthalene	< 10	10	0.70	ug/L
2-Methylphenol	< 10	10	1.4	ug/L
2-Nitroaniline	< 10	10	0.83	ug/L
2-Nitrophenol	< 10	10	0.86	ug/L
3&4-Methylphenol	< 10	10	1.5	ug/L
3,3'-Dichlorobenzidine	< 25	25	9.9	ug/L
3-Nitroaniline	< 10	10	2.0	ug/L
4,6-Dinitro-2-methylphenol	< 10	10	1.0	ug/L
4-Bromophenyl phenyl ether	< 10	10	0.34	ug/L
4-Chloro-3-methylphenol	< 10	10	0.68	ug/L
4-Chloroaniline	< 10	10	2.3	ug/L
4-Chlorophenyl phenyl ether	< 10	10	0.45	ug/L
4-Nitroaniline	< 10	10	1.2	ug/L
4-Nitrophenol	< 10	10	0.91	ug/L
Acenaphthene	< 10	10	0.41	ug/L
Acenaphthylene	< 10	10	0.38	ug/L
Aniline	< 10	10	1.3	ug/L
Anthracene	< 10	10	0.36	ug/L
Benzidine	< 100	100	8.2	ug/L
Benzo(a)anthracene	< 10	10	0.23	ug/L
Benzo(a)pyrene	< 10	10	0.34	ug/L
Benzo(b)fluoranthene	< 10	10	0.18	ug/L
Benzo(g,h,i)perylene	< 10	10	0.43	ug/L

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505312
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0201 - EPA 3510C (Sep Funnel)

Blank (B5L0201-BLK1)

Prepared: 12/02/15 Analyzed: 12/03/15

Benzo(k)fluoranthene	< 10	10	0.55	ug/L							
Benzoic acid	< 10	10	1.8	ug/L							
Benzyl alcohol	< 10	10	0.68	ug/L							
Bis(2-chloroethoxy)methane	< 10	10	0.41	ug/L							
Bis(2-chloroethyl)ether	< 10	10	0.59	ug/L							
Bis(2-chloroisopropyl)ether	< 10	10	0.47	ug/L							
Bis(2-ethylhexyl)phthalate	< 10	10	0.77	ug/L							
Butyl benzyl phthalate	< 10	10	0.67	ug/L							
Carbazole	< 10	10	0.42	ug/L							
Chrysene	< 10	10	0.34	ug/L							
Dibenz(a,h)anthracene	< 10	10	0.31	ug/L							
Dibenzofuran	< 10	10	0.77	ug/L							
Diethyl phthalate	< 10	10	0.42	ug/L							
Dimethyl phthalate	< 10	10	0.44	ug/L							
Di-n-butyl phthalate	< 10	10	0.42	ug/L							
Di-n-octyl phthalate	< 10	10	0.48	ug/L							
Fluoranthene	< 10	10	0.36	ug/L							
Fluorene	< 10	10	0.35	ug/L							
Hexachlorobenzene	< 10	10	0.30	ug/L							
Hexachlorobutadiene	< 10	10	0.37	ug/L							
Hexachlorocyclopentadiene	< 10	10	0.52	ug/L							
Hexachloroethane	< 10	10	0.61	ug/L							
Indeno (1,2,3-cd) pyrene	< 10	10	0.37	ug/L							
Isophorone	< 10	10	0.45	ug/L							
Naphthalene	< 10	10	0.33	ug/L							
Nitrobenzene	< 10	10	0.51	ug/L							
N-Nitrosodimethylamine	< 10	10	0.34	ug/L							
N-Nitrosodi-n-propylamine	< 10	10	0.47	ug/L							
N-Nitrosodiphenylamine	< 10	10	0.54	ug/L							
Pentachlorophenol	< 10	10	1.2	ug/L							
Phenanthrene	< 10	10	0.28	ug/L							
Phenol	< 10	10	1.2	ug/L							
Pyrene	< 10	10	0.49	ug/L							
Surrogate: 2,4,6-Tribromophenol	86.4			ug/L	100		86.4	30-122			
Surrogate: 2-Fluorobiphenyl	87.2			ug/L	100		87.2	39.2-104			
Surrogate: 2-Fluorophenol	61.9			ug/L	100		61.9	30-80.1			
Surrogate: Nitrobenzene-d5	81.2			ug/L	100		81.2	51.2-103			
Surrogate: Phenol-d6	55.9			ug/L	100		55.9	30-75.3			
Surrogate: Terphenyl-d14	102			ug/L	100		102	30-116			

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505312
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0201 - EPA 3510C (Sep Funnel)

LCS (B5L0201-BS1)

Prepared: 12/02/15 Analyzed: 12/03/15

1,2,4-Trichlorobenzene	37.4	10	0.53	ug/L	50.0		74.7	38-100			
1,4-Dichlorobenzene	35.1	10	0.32	ug/L	50.0		70.2	30-90			
2,4-Dinitrotoluene	42.9	10	0.44	ug/L	50.0		85.7	57-100			
2-Chlorophenol	36.3	10	1.2	ug/L	50.0		72.6	45-95			
4-Chloro-3-methylphenol	41.5	10	0.68	ug/L	50.0		83.0	52-100			
4-Nitrophenol	39.5	10	0.91	ug/L	50.0		78.9	30-100			
Anthracene	42.7	10	0.36	ug/L	50.0		85.5	60-100			
Benzo(a)anthracene	43.5	10	0.23	ug/L	50.0		87.0	64-100			
Benzo(a)pyrene	40.5	10	0.34	ug/L	50.0		81.0	60-100			
Chrysene	45.0	10	0.34	ug/L	50.0		90.1	60-100			
Fluoranthene	43.7	10	0.36	ug/L	50.0		87.3	63-100			
Fluorene	41.9	10	0.35	ug/L	50.0		83.8	59-100			
N-Nitrosodi-n-propylamine	41.2	10	0.47	ug/L	50.0		82.3	55-100			
Pentachlorophenol	38.8	10	1.2	ug/L	50.0		77.5	45-107			
Phenanthrene	42.4	10	0.28	ug/L	50.0		84.7	62-100			
Phenol	26.9	10	1.2	ug/L	50.0		53.8	30-80			
Surrogate: 2,4,6-Tribromophenol	86.6			ug/L	100		86.6	30-122			
Surrogate: 2-Fluorobiphenyl	82.6			ug/L	100		82.6	39.2-104			
Surrogate: 2-Fluorophenol	58.7			ug/L	100		58.7	30-80.1			
Surrogate: Nitrobenzene-d5	77.9			ug/L	100		77.9	51.2-103			
Surrogate: Phenol-d6	54.2			ug/L	100		54.2	30-75.3			
Surrogate: Terphenyl-d14	89.7			ug/L	100		89.7	30-116			

LCS Dup (B5L0201-BS1)

Prepared: 12/02/15 Analyzed: 12/03/15

Q9, QM-10

1,2,4-Trichlorobenzene	36.6	10	0.53	ug/L	50.0		73.2	38-100	2.09	20	
1,4-Dichlorobenzene	35.5	10	0.32	ug/L	50.0		71.1	30-90	1.25	20	
2,4-Dinitrotoluene	40.7	10	0.44	ug/L	50.0		81.4	57-100	5.18	20	
2-Chlorophenol	35.8	10	1.2	ug/L	50.0		71.5	45-95	1.43	20	
4-Chloro-3-methylphenol	39.3	10	0.68	ug/L	50.0		78.7	52-100	5.33	20	
4-Nitrophenol	38.0	10	0.91	ug/L	50.0		76.0	30-100	3.85	20	
Anthracene	39.8	10	0.36	ug/L	50.0		79.6	60-100	7.08	20	
Benzo(a)anthracene	41.7	10	0.23	ug/L	50.0		83.5	64-100	4.11	20	
Benzo(a)pyrene	38.9	10	0.34	ug/L	50.0		77.7	60-100	4.18	20	
Chrysene	43.1	10	0.34	ug/L	50.0		86.1	60-100	4.49	20	
Fluoranthene	41.6	10	0.36	ug/L	50.0		83.2	63-100	4.88	20	
Fluorene	40.0	10	0.35	ug/L	50.0		80.0	59-100	4.68	20	
N-Nitrosodi-n-propylamine	40.3	10	0.47	ug/L	50.0		80.5	55-100	2.21	20	
Pentachlorophenol	35.9	10	1.2	ug/L	50.0		71.9	45-107	7.57	20	
Phenanthrene	40.3	10	0.28	ug/L	50.0		80.5	62-100	5.10	20	
Phenol	26.0	10	1.2	ug/L	50.0		52.1	30-80	3.29	20	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505312
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

SVOC 8270D - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0201 - EPA 3510C (Sep Funnel)											
LCS Dup (B5L0201-BSD1)					Prepared: 12/02/15 Analyzed: 12/03/15					Q9, QM-10	
Surrogate: 2,4,6-Tribromophenol	80.4			ug/L	100		80.4	30-122			
Surrogate: 2-Fluorobiphenyl	78.0			ug/L	100		78.0	39.2-104			
Surrogate: 2-Fluorophenol	57.8			ug/L	100		57.8	30-80.1			
Surrogate: Nitrobenzene-d5	76.1			ug/L	100		76.1	51.2-103			
Surrogate: Phenol-d6	51.6			ug/L	100		51.6	30-75.3			
Surrogate: Terphenyl-d14	80.2			ug/L	100		80.2	30-116			

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505312
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0814 - EPA 5030 Water (Purge and Trap)

Blank (B5L0814-BLK1)

Prepared & Analyzed: 12/04/15

1,1,1,2-Tetrachloroethane	< 1.0	1.0	0.024	ug/L
1,1,1-Trichloroethane	< 1.0	1.0	0.069	ug/L
1,1,2,2-Tetrachloroethane	< 1.0	1.0	0.051	ug/L
1,1,2-Trichloroethane	< 1.0	1.0	0.10	ug/L
1,1,2-Trichlorotrifluoroethane	< 1.0	1.0	0.081	ug/L
1,1-Dichloroethane	< 1.0	1.0	0.050	ug/L
1,1-Dichloroethene	< 1.0	1.0	0.065	ug/L
1,1-Dichloropropene	< 1.0	1.0	0.15	ug/L
1,2,3-Trichlorobenzene	< 5.0	5.0	0.45	ug/L
1,2,3-Trichloropropane	< 2.5	2.5	0.056	ug/L
1,2,4-Trichlorobenzene	< 5.0	5.0	0.091	ug/L
1,2,4-Trimethylbenzene	< 1.0	1.0	0.054	ug/L
1,2-Dibromo-3-chloropropane	< 5.0	5.0	0.033	ug/L
1,2-Dibromoethane (EDB)	< 2.5	2.5	0.042	ug/L
1,2-Dichlorobenzene	< 1.0	1.0	0.052	ug/L
1,2-Dichloroethane	< 1.0	1.0	0.064	ug/L
1,2-Dichloropropane	< 1.0	1.0	0.034	ug/L
1,3,5-Trimethylbenzene	< 1.0	1.0	0.046	ug/L
1,3-Dichlorobenzene	< 1.0	1.0	0.068	ug/L
1,3-Dichloropropane	< 1.0	1.0	0.15	ug/L
1,4-Dichlorobenzene	< 1.0	1.0	0.047	ug/L
2,2-Dichloropropane	< 5.0	5.0	0.28	ug/L
2-Butanone	< 20	20	0.33	ug/L
2-Chlorotoluene	< 1.0	1.0	0.052	ug/L
4-Chlorotoluene	< 1.0	1.0	0.041	ug/L
Acetone	< 20	20	0.32	ug/L
Allyl chloride	< 5.0	5.0	0.078	ug/L
Benzene	< 1.0	1.0	0.034	ug/L
Bromobenzene	< 1.0	1.0	0.042	ug/L
Bromochloromethane	< 1.0	1.0	0.10	ug/L
Bromodichloromethane	< 1.0	1.0	0.042	ug/L
Bromoform	< 5.0	5.0	0.080	ug/L
Bromomethane	< 5.0	5.0	0.17	ug/L
Carbon tetrachloride	< 1.0	1.0	0.029	ug/L
Chlorobenzene	< 1.0	1.0	0.037	ug/L
Chloroethane	< 2.5	2.5	0.062	ug/L
Chloroform	< 1.0	1.0	0.056	ug/L
Chloromethane	< 2.5	2.5	0.062	ug/L
cis-1,2-Dichloroethene	< 1.0	1.0	0.097	ug/L

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Project: 34511010
Project Number: 34511010
Project Manager: Ms. Andrea Nord

Work Order #: 1505312
Date Reported: 12/10/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0814 - EPA 5030 Water (Purge and Trap)

Blank (B5L0814-BLK1)

Prepared & Analyzed: 12/04/15

cis-1,3-Dichloropropene	< 1.0	1.0	0.041	ug/L							
Dibromochloromethane	< 2.5	2.5	0.070	ug/L							
Dibromomethane	< 2.5	2.5	0.088	ug/L							
Dichlorodifluoromethane	< 5.0	5.0	0.14	ug/L							
Dichlorofluoromethane	< 1.0	1.0	0.059	ug/L							
Ethyl ether	< 5.0	5.0	0.091	ug/L							
Ethylbenzene	< 1.0	1.0	0.033	ug/L							
Hexachlorobutadiene	< 10	10	0.19	ug/L							
Isopropylbenzene	< 1.0	1.0	0.037	ug/L							
m,p-Xylene	< 2.0	2.0	0.087	ug/L							
Methyl isobutyl ketone	< 5.0	5.0	0.17	ug/L							
Methyl tert-butyl ether	< 1.0	1.0	0.056	ug/L							
Methylene chloride	< 5.0	5.0	0.10	ug/L							
Naphthalene	< 5.0	5.0	0.032	ug/L							
n-Butylbenzene	< 2.5	2.5	0.028	ug/L							
n-Propylbenzene	< 1.0	1.0	0.040	ug/L							
o-Xylene	< 1.0	1.0	0.053	ug/L							
p-Isopropyltoluene	< 2.5	2.5	0.052	ug/L							
sec-Butylbenzene	< 1.0	1.0	0.055	ug/L							
Styrene	< 1.0	1.0	0.048	ug/L							
tert-Butylbenzene	< 1.0	1.0	0.028	ug/L							
Tetrachloroethene	< 1.0	1.0	0.035	ug/L							
Tetrahydrofuran	< 20	20	0.34	ug/L							
Toluene	< 1.0	1.0	0.064	ug/L							
trans-1,2-Dichloroethene	< 1.0	1.0	0.058	ug/L							
trans-1,3-Dichloropropene	< 1.0	1.0	0.067	ug/L							
Trichloroethene	< 1.0	1.0	0.096	ug/L							
Trichlorofluoromethane	< 1.0	1.0	0.26	ug/L							
Vinyl chloride	< 1.0	1.0	0.046	ug/L							
Surrogate: 4-Bromofluorobenzene	49.2			ug/L	56.0		87.9	80-121			
Surrogate: Dibromofluoromethane	52.1			ug/L	56.0		93.0	79.9-121			
Surrogate: Toluene-d8	51.6			ug/L	56.0		92.1	80-120			

LCS (B5L0814-BS1)

Prepared & Analyzed: 12/04/15

1,1,2,2-Tetrachloroethane	52.7	1.0	0.051	ug/L	50.0		105	80-121			
1,1-Dichloroethane	49.8	1.0	0.050	ug/L	50.0		99.6	80-125			
1,1-Dichloroethene	46.6	1.0	0.065	ug/L	50.0		93.2	80-125			
1,3,5-Trimethylbenzene	47.7	1.0	0.046	ug/L	50.0		95.4	75.4-125			
1,4-Dichlorobenzene	46.8	1.0	0.047	ug/L	50.0		93.6	75-125			
2-Chlorotoluene	48.5	1.0	0.052	ug/L	50.0		97.1	75.4-125			

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
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Batch B5L0814 - EPA 5030 Water (Purge and Trap)

LCS (B5L0814-BS1)

Prepared & Analyzed: 12/04/15

Benzene	50.4	1.0	0.034	ug/L	50.0		101	80-120			
Bromoform	49.6	5.0	0.080	ug/L	50.0		99.2	80-120			
Chlorobenzene	48.8	1.0	0.037	ug/L	50.0		97.6	80-120			
Chloroform	46.7	1.0	0.056	ug/L	50.0		93.3	80-123			
Ethylbenzene	48.2	1.0	0.033	ug/L	50.0		96.4	80-120			
n-Butylbenzene	49.0	2.5	0.028	ug/L	50.0		98.1	75-125			
n-Propylbenzene	49.9	1.0	0.040	ug/L	50.0		99.9	75.8-125			
Toluene	50.3	1.0	0.064	ug/L	50.0		101	80-120			
Trichloroethene	47.6	1.0	0.096	ug/L	50.0		95.3	80-120			
Vinyl chloride	42.6	1.0	0.046	ug/L	50.0		85.1	75-130			
Surrogate: 4-Bromofluorobenzene	52.7			ug/L	56.0		94.2	80-121			
Surrogate: Dibromofluoromethane	52.7			ug/L	56.0		94.1	79.9-121			
Surrogate: Toluene-d8	54.2			ug/L	56.0		96.7	80-120			

Matrix Spike (B5L0814-MS1)

Source: 1505312-01

Prepared & Analyzed: 12/04/15

1,1,2,2-Tetrachloroethane	53.4	1.0	0.051	ug/L	50.0	<1.0	107	76.8-125			
1,1-Dichloroethane	51.0	1.0	0.050	ug/L	50.0	<1.0	102	80-125			
1,1-Dichloroethene	48.9	1.0	0.065	ug/L	50.0	<1.0	97.7	80-125			
1,3,5-Trimethylbenzene	47.9	1.0	0.046	ug/L	50.0	<1.0	95.9	75-125			
1,4-Dichlorobenzene	46.7	1.0	0.047	ug/L	50.0	<1.0	93.4	75-125			
2-Chlorotoluene	48.1	1.0	0.052	ug/L	50.0	<1.0	96.2	75-125			
Benzene	51.4	1.0	0.034	ug/L	50.0	<1.0	103	80-120			
Bromoform	51.3	5.0	0.080	ug/L	50.0	<5.0	103	80-120			
Chlorobenzene	48.6	1.0	0.037	ug/L	50.0	<1.0	97.2	80-120			
Chloroform	48.6	1.0	0.056	ug/L	50.0	<1.0	97.1	79.8-125			
Ethylbenzene	49.0	1.0	0.033	ug/L	50.0	<1.0	97.9	80-120			
n-Butylbenzene	46.8	2.5	0.028	ug/L	50.0	<2.5	93.5	75-130			
n-Propylbenzene	49.0	1.0	0.040	ug/L	50.0	<1.0	98.1	75-125			
Toluene	50.8	1.0	0.064	ug/L	50.0	<1.0	102	80-120			
Trichloroethene	48.4	1.0	0.096	ug/L	50.0	<1.0	96.8	80-120			
Vinyl chloride	42.5	1.0	0.046	ug/L	50.0	<1.0	85.1	75-130			
Surrogate: 4-Bromofluorobenzene	53.0			ug/L	56.0		94.6	80-121			
Surrogate: Dibromofluoromethane	52.6			ug/L	56.0		93.9	79.9-121			
Surrogate: Toluene-d8	53.1			ug/L	56.0		94.8	80-120			

Matrix Spike Dup (B5L0814-MSD1)

Source: 1505312-01

Prepared & Analyzed: 12/04/15

1,1,2,2-Tetrachloroethane	53.0	1.0	0.051	ug/L	50.0	<1.0	106	76.8-125	0.858	20	
1,1-Dichloroethane	52.4	1.0	0.050	ug/L	50.0	<1.0	105	80-125	2.62	20	
1,1-Dichloroethene	48.9	1.0	0.065	ug/L	50.0	<1.0	97.8	80-125	0.0344	20	
1,3,5-Trimethylbenzene	47.6	1.0	0.046	ug/L	50.0	<1.0	95.2	75-125	0.733	20	

Barr Engineering Co.	Project: 34511010	
4300 MarketPointe Drive, Suite 200	Project Number: 34511010	Work Order #: 1505312
Minneapolis, MN 55435	Project Manager: Ms. Andrea Nord	Date Reported: 12/10/15

VOC 8260B - Quality Control
Legend Technical Services, Inc.

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	%RPD	%RPD Limit	Notes
Batch B5L0814 - EPA 5030 Water (Purge and Trap)											
Matrix Spike Dup (B5L0814-MSD1)	Source: 1505312-01					Prepared & Analyzed: 12/04/15					
1,4-Dichlorobenzene	47.0	1.0	0.047	ug/L	50.0	<1.0	94.1	75-125	0.713	20	
2-Chlorotoluene	49.0	1.0	0.052	ug/L	50.0	<1.0	97.9	75-125	1.76	20	
Benzene	51.2	1.0	0.034	ug/L	50.0	<1.0	102	80-120	0.450	20	
Bromoform	51.4	5.0	0.080	ug/L	50.0	<5.0	103	80-120	0.0680	20	
Chlorobenzene	49.1	1.0	0.037	ug/L	50.0	<1.0	98.3	80-120	1.16	20	
Chloroform	49.3	1.0	0.056	ug/L	50.0	<1.0	98.6	79.8-125	1.48	20	
Ethylbenzene	48.8	1.0	0.033	ug/L	50.0	<1.0	97.6	80-120	0.287	20	
n-Butylbenzene	48.8	2.5	0.028	ug/L	50.0	<2.5	97.6	75-130	4.20	20	
n-Propylbenzene	48.7	1.0	0.040	ug/L	50.0	<1.0	97.4	75-125	0.756	20	
Toluene	51.8	1.0	0.064	ug/L	50.0	<1.0	104	80-120	2.00	20	
Trichloroethene	49.4	1.0	0.096	ug/L	50.0	<1.0	98.8	80-120	2.04	20	
Vinyl chloride	42.4	1.0	0.046	ug/L	50.0	<1.0	84.8	75-130	0.305	20	
Surrogate: 4-Bromofluorobenzene	53.2			ug/L	56.0		95.0	80-121			
Surrogate: Dibromofluoromethane	53.0			ug/L	56.0		94.6	79.9-121			
Surrogate: Toluene-d8	53.9			ug/L	56.0		96.2	80-120			

Barr Engineering Co. 4300 MarketPointe Drive, Suite 200 Minneapolis, MN 55435	Project: 34511010 Project Number: 34511010 Project Manager: Ms. Andrea Nord	Work Order #: 1505312 Date Reported: 12/10/15
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Notes and Definitions

T5 Laboratory not licensed for this parameter.

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate(s).

QM-10 LCS/LCSD were analyzed in place of MS/MSD.

Q9 Insufficient sample received to meet method QC requirements.

< Less than value listed

dry Sample results reported on a dry weight basis

NA Not applicable. The %RPD is not calculated from values less than the reporting limit.

MDL Method Detection Limit; Equivalent to the method LOD (Limit of Detection)

RL Reporting Limit

RPD Relative Percent Difference

LCS Laboratory Control Spike = Blank Spike (BS) = Laboratory Fortified Blank (LFB)

MS Matrix Spike = Laboratory Fortified Matrix (LFM)

Chain of Custody										Number of Containers/Preservative										COC <u>1</u> of <u>1</u>					
										Water					Soil										
<div style="display: flex; justify-content: space-between;"> <div> <p>4700 West 77th Street Minneapolis, MN 55435-4803 (952) 832-2600</p> </div> <div style="font-size: 2em;">15053/2</div> </div>																				Project Manager: <u>Mandy B.</u> Project QC Contact: <u>Andrew Nord</u> Sampled by: <u>AKK</u> Laboratory: <u>Legend</u>					
Project Number: <u>34511010</u> Project Name: <u>4th Ave Floodwall</u> Sample Origin/State: <u>ND</u> (use two letter postal state abbreviation) COC Number: <u>No 45065</u>																									
Location	Start Depth	Stop Depth	Depth Unit (m, ft, or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix		Type		VOCs (HCl) #1	SVOCs (unpreserved) #2	Dissolved Metals (HNO ₃)	Asbestos (HNO ₃)	Trace Metals (HNO ₃)	Diesel Range Organics (HCl)	Polynuclear Aromatic Hydrocarbons (HCl)	VOCs (acid MeOH) #3	GRX, BTEX, TCE, MeOH #4	DRG (acid unpreserved)	Metals (unpreserved)	SVOCs (unpreserved) #2	% Solids (plastic vial, unpres.)	Total Number of Containers		
						Water	Soil	Grain	Comp.																
1. B-4			ft	11/25/15	07:40	X		X	X	3	1		2	3											18
2. B-D			ft		08:10	X		X		3	1		1	3											9
3. B-2a			ft		08:40	X		X		3	1		1	3											9
4. Temp blank	N/A					X			X																1
5. HCL blank	N/A					X			X																1
6.																									
7.																									
8.																									
9.																									
10.																									

Common Parameter/Container - Preservation Key

#1 - Volatile Organics = BTEX, GRX, TPH, 8260 Full List
#2 - Semi-volatile Organics = PAHs, PCB, Dioxin, 8270 Full List, Herbicide/Pesticide/PCBs
#3 - General = pH, Chloride, Fluoride, Alkalinity, TSS, TDS, TS, Sulfate
#4 - Nutrients = COD, TOC, Phenols, Ammonia Nitrogen, TKN

Relinquished By: <u>AKK</u>	On Ice? <input checked="" type="checkbox"/> N	Date: <u>11/30/15</u>	Time: <u>15:00</u>	Received by:	Date:	Time:
Relinquished By: <u>AKK</u>	On Ice? <input checked="" type="checkbox"/> N	Date:	Time:	Received by: <u>AKK</u>	Date: <u>12/1/15</u>	Time: <u>800</u>
Samples Shipped Via: <input type="checkbox"/> Air Freight <input type="checkbox"/> Federal Express <input type="checkbox"/> Sampler <input checked="" type="checkbox"/> Other: <u>UPS</u>				Air Bill Number: <u>3192</u>		

Distribution: White-Original Accompanies Shipment to Lab; Yellow - Field Copy; Pink - Lab Coordinator

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Page 2

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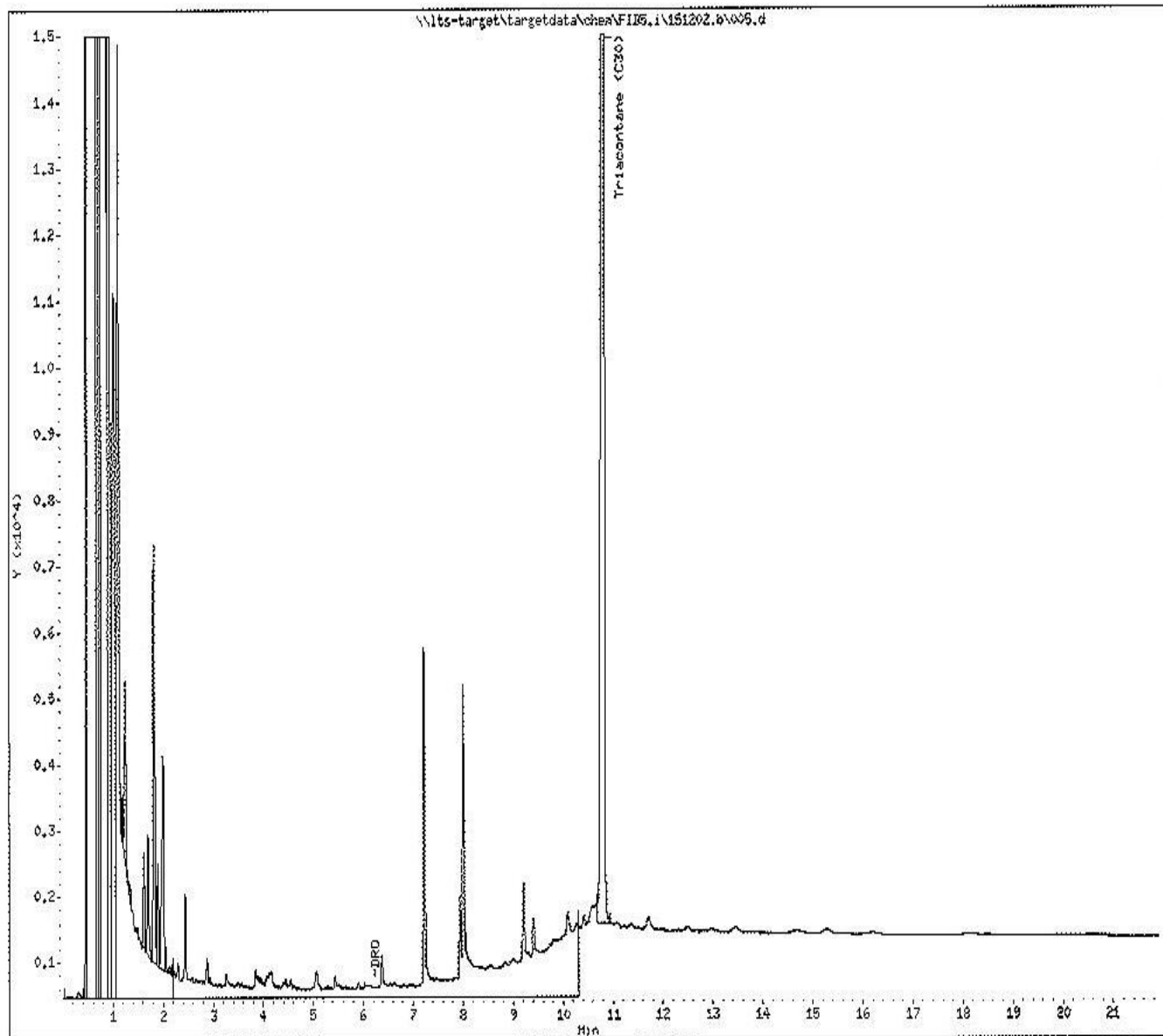
Instrument: FID5.i

Sample Info: 1505312-01

Operator: gp

Column phase:

Column diameter: 0.53



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Page 2

Date : 02-DEC-2015 18:03

Client ID:

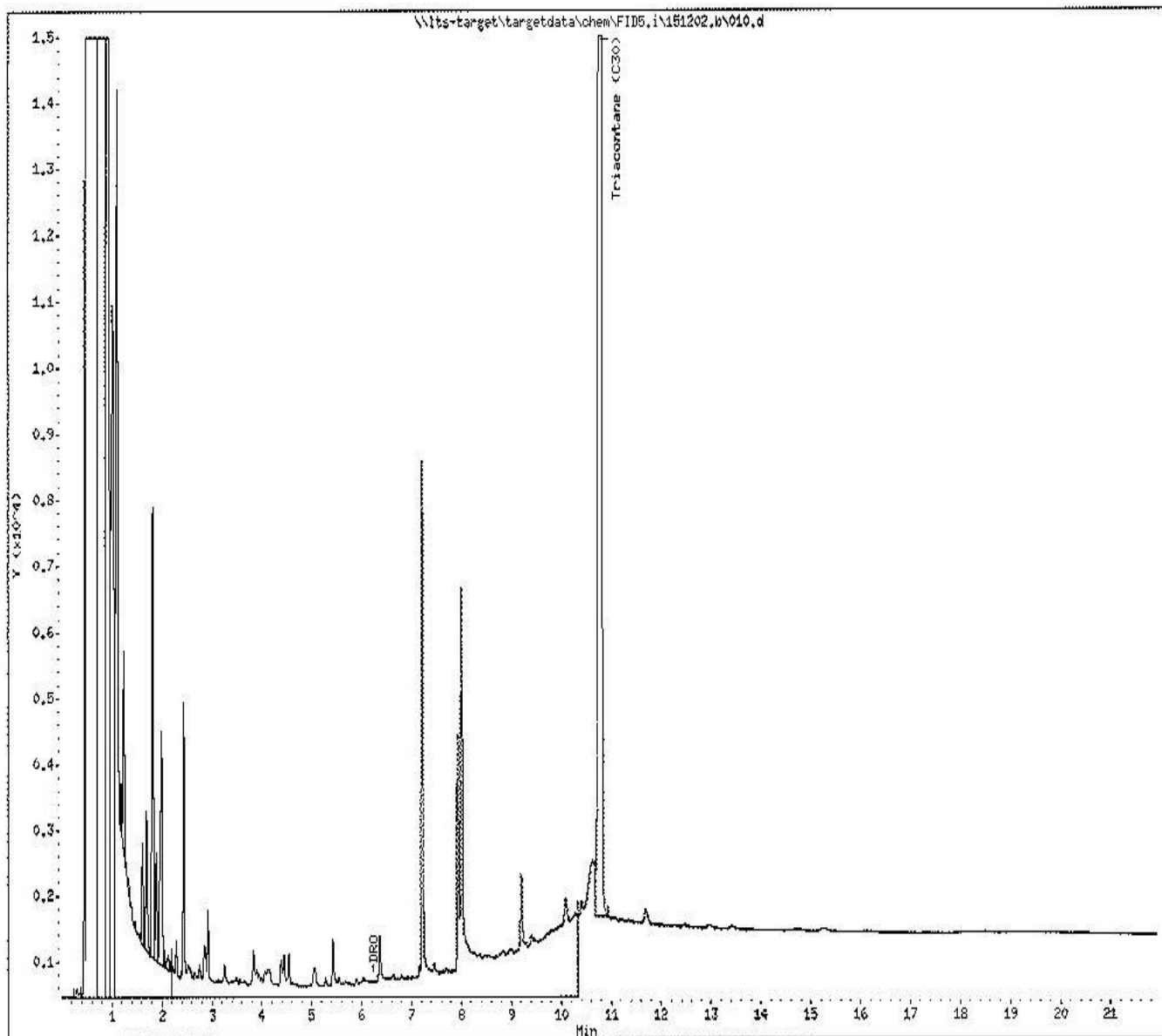
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Sample Info: 1505312-02

Operator: yp

Column phase:

Column diameter: 0.53



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Page 2

Date : 02-DEC-2015 16:42

Client ID:

Instrument: FID5.i

Sample Info: 1505312-03

Operator: ye

Column phase:

Column diameter: 0.53

